Completion Instructions

Return of Capital Adequacy Ratio
Forms MA(BS)3(I) to 3(VI)

Introduction

1. This return collects information on the capital adequacy position of authorized institutions incorporated in Hong Kong.

2. The return comprises 6 Parts, with Part III further divided into 6 sections for reporting institutions to report the risk-weighted amounts of their credit exposures under different approaches.

Part			Form
I	Summary certificate on capital adequacy ratios		MA(BS)3(I)
II	Capital base		MA(BS)3(II)
III	a	Risk-weighted amount for credit risk – basic approach	MA(BS)3(IIIa)
	b	Risk-weighted amount for credit risk – standardized (credit risk) approach	MA(BS)3(IIIb)
	c	Risk-weighted amount for credit risk – internal ratings-based approach	MA(BS)3(IIIc)
	d	Risk-weighted amount for credit risk – securitization exposures	MA(BS)3(IIId)
	e	Risk-weighted amount for credit risk – central counterparties	MA(BS)3(IIIe)
	f	Risk-weighted amount for credit risk – credit valuation adjustment	MA(BS)3(IIIf)
IV	Risk-weighted amount for market risk		MA(BS)3(IV)
V	Risk-weighted amount for operational risk		MA(BS)3(V)
VI	Risk-weighted amount for sovereign concentration risk		MA(BS)3(VI)

General Instructions

Layout and application

3. Instructions provided under this section apply to all forms contained in this Return. Specific instructions relating to individual forms are separately provided. Reporting institutions should complete the forms that are relevant to them in accordance with these instructions, having regard to the Banking (Capital) Rules (BCR), as well as other relevant supervisory policy/guidance related to the revised capital adequacy framework issued by the HKMA.

4. In completing Part VI of this Return, reporting institutions should additionally have regard to the Banking (Exposure Limits) Rules as well as other relevant supervisory policy guidance related to the large exposure framework issued by the HKMA.

5. Parts I, II and V are applicable to all reporting institutions. Part IV on Market Risk is applicable only to reporting institutions which are not exempted under the *de minimis criteria* as set out in section 22 of the BCR. For Parts IIIa to IIIc on Credit Risk, reporting institutions are required to submit form(s) for the approach(es) being used by them to risk-weight their non-securitization exposures. Parts IIId to IIIf and VI are applicable only if the institutions have exposures that are the subject of these Parts.

Combined / consolidated return

6. Where applicable, the forms should be completed both on a solo (or solo-consolidated) basis (i.e. the Combined Return) and on a consolidated basis (i.e. the Consolidated Return). Reporting institutions should make reference to the respective provisions of the BCR when reporting their solo, solo-consolidated or consolidated position (i.e. sections 29, 30 and 31 of the BCR respectively).

7. A reporting institution should include positions in the return as follows:

Solo basis	All positions of the institution and its local and overseas branches / offices.
Solo-consolidated basis	All positions of the institution, its local and overseas branches / offices and its solo-consolidated subsidiaries as defined in section 4 of the BCR.
Consolidated basis	All positions of the institution's consolidation group (including local and overseas branches) as defined in section 4 of BCR.

Reporting institutions should obtain the necessary approvals from the Monetary Authority (MA) and follow the requirements that are relevant to their choice of calculation approaches as set out in Part 2 of the BCR.

Instructions applicable to consolidated basis

8. If every member of a reporting institution's consolidation group uses the same approach in calculating the risk-weighted amount for a particular risk (i.e. credit, market, operational or sovereign concentration risk), the consolidation group should be treated as one single entity. The positions of individual members within the institution's consolidation group with respect to each of the risk types should be aggregated. The consolidated risk-weighted amounts for credit risk, market risk and operational risk should be calculated according to the approaches selected for these risks. The consolidated risk-weighted amount for sovereign concentration risk should be calculated according to Part 10 of the BCR.

9. With the prior consent of the MA, members of a reporting institution's consolidation group may use different approaches in calculating the risk-weighted amount for a

particular risk (i.e. credit, market or operational risk). Where different approaches are used, the consolidated risk-weighted amount should be calculated by aggregating the risk-weighted amounts for each of the members calculated separately (1) according to the approaches used by the member concerned for credit risk, market risk and operation risk and (2) according to Part 10 of the BCR in respect of sovereign concentration risk.

10. Any inter-company balances, transactions, income and expenses, as the case may be, among members of the consolidation group shall be eliminated in the calculation.

11. With the prior consent of the MA, a reporting institution may be allowed to calculate the capital charge for exposures of its one or more than one subsidiary incorporated in overseas countries in accordance with the capital adequacy standards adopted by the host supervisors of these subsidiaries.

Submission dates

12. The return should show the position as at the last calendar day of each quarter and should be submitted as follows:

    (a) Combined return – within 1 month after the end of each quarter in the case of reporting institutions without overseas branches, or within 6 weeks in all other cases; and

    (b) Consolidated return – within 6 weeks after the end of each quarter unless otherwise advised by the HKMA; and

    (c) If the submission deadline falls on a public holiday, it will be deferred to the next working day.

Definitions

13. Unless otherwise specified, terminology used in this return follows that of the BCR. For ease of reference, most of the main terms are printed in ***bold italics*** on their first appearance in these instructions. Reporting institutions should refer to the BCR for definitions of these terms.

Others

14. Amounts should be shown to the nearest thousand, in HK$ or HK$ equivalents in the case of foreign currency items. The closing middle market T/T rates prevailing at the reporting date should be used for conversion purposes.

15. Securities transactions are to be reported on trade date basis.

Hong Kong Monetary Authority
September 2019

Completion Instructions

Return of Capital Adequacy Ratio
Part I – Summary Certificate on Capital Adequacy Ratios
Form MA(BS)3(I)

Introduction

1. Form MA(BS)3(I) is divided into three divisions:

   (a) Divisions A and C – to be completed by all reporting institutions (reporting AIs);

   (b) Division B – to be completed by reporting AIs using the ***internal ratings-based approach (IRB approach)***.

2. Division A is for a reporting AI to provide summary information on its quarter-end Common Equity Tier 1 capital ratio, Tier 1 capital ratio and Total capital ratio and the relevant aggregate figures (mainly extracted from other parts of the Return) for computing the ratios. Division B collects information for the determination of the ***capital floor*** by a reporting AI using the IRB approach. Division C is for a reporting AI to report information relating to capital buffer requirements applicable to it.

3. This return and its completion instructions should be read in conjunction with the Banking (Capital) Rules (BCR) and the relevant supervisory policy/guidance on the capital adequacy framework.

Specific Instructions

Division A: Calculation of Capital Adequacy Ratios

4. The figures reported for items 1.1 to 1.3, 2.1 to 2.6(ii), 2.8, 2.9 and 2.9a should be extracted from other parts of the Return. See **Annex I-A** for a mapping table on items in this Form and the corresponding items in other Forms.

5. Reporting AIs using the IRB approach, regardless of whether they also use other prescribed approaches to calculate credit risk, are not required to complete item 2.5, since the total ***CVA risk-weighted amount*** of the AIs reported under Part IIIf has already been incorporated into the AIs' ***risk-weighted amount for credit risk*** (credit RWA) reported under Part IIIc and reflected under item 2.3.

6. Only reporting AIs using the IRB approach are required to complete item 2.10 and item 6. It should be noted that item 2.10 will only be accessible to reporting AIs that use the IRB approach, and its value should be equal to item 4 of Division B. In calculating the IRB coverage ratio under item 6, the credit RWA in respect of the relevant reporting AIs' exposures to ***central counterparties*** (***CCP***) (i.e. item 2.4) are excluded from the denominator.

7. Item 2.12(i) must be completed by the reporting AI if ***regulatory reserve for general banking risks*** and ***collective provisions*** have been made for or apportioned to—

(a) its non-securitization exposures that are risk-weighted by using the ***basic approach (BSC approach)*** or the ***standardized (credit risk) approach (STC approach)***; or

(b) its ***securitization exposures*** that are risk-weighted by using the ***securitization external ratings-based approach*** (***SEC-ERBA***), ***securitization standardized approach*** (***SEC-SA***) and ***securitization fall-back approach*** (***SEC-FBA***).

The AI must report in this item the amount of the above regulatory reserve for general banking risks and collective provisions that exceeds 1.25% of the credit RWA reported under items 2.1, 2.2 and 2.6(ii). To avoid doubts, risk-weighted amount for CCP and CVA, if any, is excluded for the calculation of this 1.25% cap.

8. Item 2.12(ii) refers to the portion of cumulative fair value gains arising from the revaluation of the AI's holdings of land and buildings (except land and buildings mortgaged to the reporting AI to secure a debt) which is not included in Tier 2 Capital. For this purpose, whether such amount should be net or gross of deferred tax liabilities will be based on the prevailing accounting standards applicable within a given jurisdiction.

Division B: Calculation of Capital Floor

9. A reporting AI using the IRB approach (whether foundation or advanced) for capital adequacy purposes is subject to a capital floor for the first three years of the adoption of the IRB approach. The use of the capital floor is to prevent a sudden fall in capital charges solely as a result of the changes in how the credit RWA is measured.

10. A reporting AI migrating from the ***foundation IRB approach*** (FIRB) to the ***advanced IRB approach*** (AIRB) will generally not be subject to the capital floor if it has already been subject to a capital floor for a period of three years since its adoption of the FIRB. However, a reporting AI that is migrating to the AIRB during the first three years of using the FIRB will need to continue to adopt the capital floor for the remaining period. For example, a reporting AI moving to the AIRB after using the FIRB for two years should continue to be subject to the capital floor in the third year.

11. The Monetary Authority (MA) may require a reporting AI using the IRB approach to keep the capital floor in place beyond the three-year period or reinstate the capital floor requirement for a reporting AI in the following circumstances-

(a) for so long as the MA is satisfied that the prevailing banking supervisory standards relating to capital issued by the Basel Committee require a capital floor to continue to be applied to entities using the IRB approach beyond the first three years of adoption; and

(b) where this is deemed appropriate by the MA based on the AI's circumstances (e.g. IRB compliance problems have emerged pending rectification or possible material prudential concerns on the financial soundness of the AI).

12. A reporting AI using the IRB approach should indicate whether it is subject to the capital floor requirement as at the reporting date by answering the filtering question at the top of Division B by inputting either "Yes" or "No"[1]. Those AIs which have answered "Yes" should proceed to complete the data table in Division B below the question, while the others should go directly to Division C of the return.

(A) Calculation of capital charge for the application of capital floor

13. Subject to paragraph 18, a reporting AI which is subject to the capital floor should calculate the difference between:

(a) the floor amount of capital (capital floor) as calculated in accordance with paragraphs 14 to 16 (details to be reported under items 1(i) to (x) of Division B); and

(b) the actual amount of capital as calculated in accordance with paragraph 17 (details to be reported under items 2(i) to (ix) of Division B).

If the floor amount of capital is larger than the actual amount of capital, the AI is required to report the product of such difference and 12.5 in item 4 of Division B and add such amount to the credit RWA (i.e. in item 2.10 of Division A). Otherwise, the figures reported under item 4 of Division B and item 2.10 of Division A should be zero.

14. For a reporting AI that has started to use the IRB approach within the transitional period from 1 January 2007 to 31 December 2009, the capital floor is derived by applying an adjustment factor (see paragraph 16) to the sum of the following amounts:

(a) 8% of the total RWA[2] (to be reported under item 1(v)) as calculated:

(i) for credit risk under the BSC approach or the STC approach[3] (to be reported under item 1(i)(a) or (b), as the case requires);

(ii) for credit risk in respect of securitization exposures under the SEC-ERBA, SEC-SA and SEC-FBA, whichever is applicable (to be reported under item 1(i)(c)); and

(iii) for market risk under the approach in use (i.e. the ***standardized (market risk) approach*** and/or the ***internal models approach***) (to be reported under item 1(ii)).

[1] By virtue of HKMA circular of 20 December 2013 and related notices issued to relevant AIs under section 225(6) of the BCR, all AIs that use the IRB approach are required to be subject to the capital floor requirement on the ground mentioned in paragraph 11(a).

[2] To facilitate a closer comparison with the capital calculation under the current Accord, a reporting AI adopting the IRB approach within the transitional period is not required to include the RWAs calculated for operational risk for the calculation of the capital floor.

[3] Subject to the prior consent of the MA, a reporting AI using the STC approach for the calculation of credit RWA before migrating to the IRB approach within the transitional period may use the STC approach as the basis for calculating the capital floor.

The total RWA is determined by:

Credit RWA + market risk capital charges × 12.5

(b) plus all deductions from the Common Equity Tier 1 capital, Additional Tier 1 capital and Tier 2 capital (to be reported under item 1(vi));

(c) less the amount of regulatory reserve for general banking risks and collective provisions which is included in the Tier 2 capital (to be reported under item 1(vii)).

15. For a reporting AI that has started, or will start, to use the IRB approach after the transitional period, the calculation of the capital floor is derived by applying an adjustment factor (see paragraph 16) to the sum of the following amounts:

(a) 8% of the total RWA (to be reported under item 1(v)) as calculated:

(i) for credit risk under the STC approach (to be reported under item 1(i)(b));

(ii) for credit risk in respect of securitization exposures under the SEC-ERBA, SEC-SA and SEC-FBA, whichever is applicable (to be reported under item 1(i)(c));

(iii) for credit risk in respect of exposures to CCP in accordance with Division 4 of Part 6A (the amount reported under item 6 of Part IIIe to be reported under item 1(i)(d));

(iv) for credit risk in respect of ***CVA risk*** to counterparties in accordance with Division 3 of Part 6A (the aggregate of the CVA risk-weighted amounts reported under Part IIIf to be reported under item 1(i)(e));

(v) for market risk under the approach in use (to be reported under item 1(ii)); and

(vi) for operational risk under the approach in use (i.e. the ***basic indicator approach***, the ***standardized (operational risk) approach*** or the ***alternative standardized approach)*** (to be reported under item 1(iii)).

The total RWA is determined by:

Credit RWA + market risk capital charges × 12.5 + operational risk capital charges × 12.5

(b) plus all deductions from the Common Equity Tier 1 capital, Additional Tier 1 capital and Tier 2 capital (to be reported under item 1(vi));

(c) less the amount of regulatory reserve for general banking risks and collective provisions which is included in the Tier 2 capital (to be reported under item 1(vii)).

16. The adjustment factors to be used for the calculation of the floor amount of capital by a reporting AI starting to use the IRB approach within or after the transitional period are set out in the table below, unless the MA has specified another adjustment factor (not exceeding 100%) pursuant to section 225(5)(c) or (6)(c)(i) of the BCR.

Date of IRB approach implementation	1st year of implementation	2nd year of implementation	3rd year of implementation
Within transitional period	95%	90%	80%
After transitional period[4]	90%	80%	70%

The AI is required to fill in the applicable adjustment factor in item 1(ix).

(B) Calculation of capital charge under the various approaches in use

17. In the years in which the capital floor applies, a reporting AI should also calculate the actual amount of capital as follows:

(a) 8% of total RWA (to be reported under item 2(v)) as determined under the various approaches in use for

(i) credit risk, including credit risk in respect of securitization exposures or exposures to central counterparties where applicable (to be reported under items 2(i)(a), (b), (c), (d), (e) or (f), as the case requires);

(ii) market risk (to be reported under item 2(ii)); and

(iii) operational risk (to be reported under item 2(iii)).

The total RWA is determined by:

Credit RWA + market risk capital charges × 12.5 + operational risk capital charges × 12.5

(b) plus all deductions from the Common Equity Tier 1 capital, Additional Tier 1 capital and Tier 2 capital (to be reported under item 2(vi)), including the shortfall amount (i.e. ***total EL amount*** > ***total eligible provisions***) derived from EL-EP calculation (See Section C of the Completion Instructions for MA(BS)3(IIIc));

(c) less the amount of regulatory reserve for general banking risks and collective provisions included in the Tier 2 capital (to be reported under item 2(vii)) if the AI uses the BSC approach, the STC approach, the SEC-ERBA, SEC-SA and/or SEC-FBA for any portion of its credit exposures;

(d) less the surplus amount of provisions under the IRB approach (i.e. where total eligible provisions > total EL amount) included in the Tier 2 capital derived from EL-EP calculation; and the portion of total regulatory reserve for general banking risks and collective provisions relevant to the ***securitization internal ratings-based***

[4] Lower adjustment factors are used to take account of the inclusion of operational risk capital charges for the calculation of capital floor after the transitional period (see also footnote 2).

approach (***SEC-IRBA***) that is included in the Tier 2 capital (to be reported under item 2(viii)).

(C) Adjustments to the calculation methods of capital floors

18. Where the MA extends or reapplies the capital floor requirement to a reporting AI using the IRB approach in the circumstance stated in paragraph 11(a), the MA may specify in a notice to the AI –

(a) an adjustment factor (not exceeding 100%) for the purposes of calculating the floor amount of capital; and

(b) any other adjustments to the method of calculating the floor amount of capital and the actual amount of capital,

which is considered reasonable by the MA to ensure that the capital floor is calculated substantially in accordance with the relevant prevailing banking supervisory standards relating to capital issued by the Basel Committee.

Division C: Capital Buffer Requirements

19. A reporting AI is required to observe the following in reporting under this Division:

Item		Reporting
1.	Net CET1 capital ratio[5]	Report the ratio, expressed as a percentage, of (a) the amount of the AI's CET1 capital less the amount of CET1 capital that the AI requires for maintaining (i) the minimum CET1 capital ratio, Tier 1 capital ratio and Total capital ratio applicable to it as set out in section 3B of the BCR and as varied by the MA under section 97F of the Banking Ordinance and (ii) the minimum external or internal LAC risk-weighted ratio (as the case requires) that the AI is required to maintain under the Financial Institutions (Resolution) (Loss-absorbing Capacity Requirements – Banking Sector) Rules, to (b) the sum of the AI's risk-weighted amount for credit risk, risk-weighted amount for market risk, risk-weighted amount for operational risk and risk-weighted amount for sovereign concentration risk, as determined in accordance with the BCR (i.e. the Total risk-weighted amount as reported under item 2.13 in Division A). Please refer to the illustrative examples in **<u>Annex I-B</u>** on how to calculate the net CET1 capital ratio.
2.	Buffer level	Report the buffer level that is applicable to an AI, expressed as a percentage and calculated according to

[5] Reporting reflects calculation requirement under section 3E(2) of the BCR.

Item		Reporting
		section 3G of the BCR – (a) if the AI is a G-SIB or a D-SIB – Item 2.1 + 2.2 + 2.3 in this Division; or (b) in any other cases – Item 2.1 + 2.2 in this Division.
2.1	Capital conservation buffer ratio (CB ratio)	Report the CB ratio for calculating an AI's buffer level under section 3G of the BCR as at the reporting date.
2.2	Countercyclical capital buffer ratio (CCyB ratio)	Report the CCyB ratio for calculating an AI's buffer level under section 3G of the BCR as at the reporting date. The CCyB ratio reported in this item should be consistent with the ratio reported in the cell labelled "CCyB ratio" in column (8) of the Quarterly Reporting on the Countercyclical Capital Buffer (Form MA(BS)25).
2.3	Higher loss absorbency ratio (HLA ratio)	Report the HLA ratio notified by the MA as applicable to the AI, if any, for calculating the AI's buffer level under section 3G of the BCR as at the reporting date.

Hong Kong Monetary Authority
June 2021

Annex I-A

Items in MA(BS)3(I)		Cross reference with other return forms
Division A	Division B	
1.1	N/A	MA(BS)3(II) – Item (E) of Part II
1.1(i)	N/A	MA(BS)3(II) – Item (B) of Part II
1.1(ii)	N/A	MA(BS)3(II) – Item (D) of Part II
1.2	N/A	MA(BS)3(II) – Item (G) of Part II
1.3	N/A	MA(BS)3(II) – Item (H) of Part II
2.1	2(i)(a)	MA(BS)3(IIIa) – Item (A9) of Division A
2.2	2(i)(b)	MA(BS)3(IIIb) – Item (A10) of Division A
2.3	2(i)(c)	MA(BS)3(IIIc) – Item 10 of Division A
2.4	1(i)(d) 2(i)(f)	MA(BS)3(IIIe) – Item 6
2.5	1(i)(e)	For AIs not using the IRB approach MA(BS)3(IIIf) – Item "Total" row of "Risk-weighted Amount" column of Division A + Item 3 of "Risk-weighted Amount" column of Division B For AIs using the IRB approach *Division A of Part I*: The figure should be zero. Refer to paragraph 5 for details *Division B of Part I*: MA(BS)3(IIIf) – Item "Total" row of "Risk-weighted Amount" column of Division A + Item 3 of "Risk-weighted Amount" column of Division B
2.6(i)	2(i)(e)	MA(BS)3(IIId) – Column 1 of item A5(a) of Division A
2.6(ii)	2(i)(d)	MA(BS)3(IIId) – Column 1 of items A5(b) and A6 of Division A
2.8	2(ii)	MA(BS)3(IV) – Item 3 of Division G
2.9	2(iii)	MA(BS)3(V) – Item 5
2.9a	N/A	MA(BS)3(VI) – Item 2
N/A	2(vi)	MA(BS)3(II) –Sum of items (f)(i) to (xxi), items (i)(i) to (v) and items (r)(i) to (viii) of Part II
N/A	2(vii)	MA(BS)3(II) – Item (o) of Part II
N/A	2(viii)	MA(BS)3(II) – Items (p) and (q) of Part II

Annex I-B

Illustrative examples to calculate the net CET1 capital ratio

Scenario 1

Suppose Bank A is classified as a resolution entity under the Financial Institutions (Resolution) (Loss-absorbing Capacity Requirements – Banking Sector) Rules (AI LAC Rules). Bank A's risk-weighted amount is 100 units and it has 15 units of Total capital (comprising 14 units of CET1 capital and 1 unit of Tier 2 capital) and 8 units of non-capital LAC debt resources. Therefore, the CET1 capital ratio, Tier 1 capital ratio, Total capital ratio and external LAC risk-weighted ratio of Bank A are 14%, 14%, 15% and 23% respectively.

Taking into account Bank A's minimum capital adequacy and loss-absorbency capacity (LAC) requirements (assuming 5.3%, 7.1%, 9.5% and 19% for CET1 capital ratio, Tier 1 capital ratio, Total capital ratio and external LAC risk-weighted ratio respectively in this scenario), the calculation of the net CET1 capital ratio includes the following steps:

Tier of capital / LAC	CARs of Bank A	Bank A's capital requirement[5] (as varied under s.97F of the BO)	CET1 capital required to meet Bank A's capital requirement	Remarks
CET1 capital	14.0%	5.3%	5.3 units	
Tier 1 capital	14.0%	7.1%	= 5.3 + (7.1 - 5.3) = 5.3 + 1.8 = 7.1 units	Since Bank A has no Additional Tier 1 capital, the bank must make use of an additional 1.8 unit of CET1 capital to meet its Tier 1 capital requirement
Total capital	15.0%	9.5%	= 7.1 + [(9.5 - 7.1) - 1] = 7.1+1.4 = 8.5 units	Since Bank A has only 1 unit of Tier 2 capital and no Additional Tier 1 capital, the bank must make use of an additional 1.4 unit of CET1 capital to meet its total capital requirement

	External LAC risk-weighted ratio of Bank A	**Bank A's minimum external LAC risk-weighted ratio (as determined under Part 4 of the AI LAC Rules)**	**CET1 capital required to meet Bank A's LAC requirement**	**Remarks**
External loss-absorbing capacity	23%	19%	= 8.5 + [(19 – 9.5) – 8] = 8.5 + 1.5 = 10 units	Since Bank A has only 8 units of non-capital LAC debt resources with no available Additional Tier 1 capital or Tier 2 capital (other than those mentioned above), the bank must make use of an additional 1.5 units of CET1 capital to meet its total LAC requirement

Net CET1 Capital	= 14.0 – 10.0 = 4.0 units
Net CET1 Capital Ratio	**= 4.0 / 100 = 4.0%**

Scenario 2

Suppose Bank B is classified as a resolution entity under the AI LAC Rules. Bank B's risk-weighted amount is 100 units and it has 18 units of Total capital (comprising 14 units of CET1 capital, 2 units of Additional Tier 1 capital and 2 units of Tier 2 capital) and 8 units of non-capital LAC debt resources. Therefore, the CET1 capital ratio, Tier 1 capital ratio, Total capital ratio and external LAC risk-weighted ratio of Bank B are 14%, 16%, 18% and 26% respectively.

Taking into account Bank B's minimum capital adequacy and LAC requirements (assuming 5.3%, 7.1%, 9.5% and 19% for CET1 capital ratio, Tier 1 capital ratio, Total capital ratio and external LAC risk-weighted ratio respectively in this scenario), the calculation of the net CET1 capital ratio includes the following steps:

Tier of capital / LAC	**CARs of Bank B**	**Bank B's capital requirement[6] (as varied under s.97F of the BO)**	**CET1 capital required to meet Bank B's capital requirement**	**Remarks**
CET1 capital	14.0%	5.3%	5.3 units	
Tier 1 capital	16.0%	7.1%	5.3 units	Since Bank B has 2 units of Additional Tier 1 capital, the bank does not need to make use of additional units of CET1 capital to meet its Tier 1 capital requirement
Total capital	18.0%	9.5%	= 9.5 - 2 - 2 = 5.5 units	Since Bank B has 2 units of Additional Tier 1 capital and 2 units of Tier 2 capital, the bank needs to make use of an additional 0.2 unit of CET1 capital to meet its total capital requirement

[6] Please refer to subsection 3.5 of the HKMA Supervisory Policy Manual module CA-G-5 *Supervisory Review Process* for details on the apportionment of the P2A to the three minimum capital ratios (http://www.hkma.gov.hk/media/eng/doc/key-functions/banking-stability/supervisory-policy-manual/CA-G-5.pdf).

	External LAC risk-weighted ratio of Bank B	Bank B's minimum external LAC risk-weighted ratio (as determined under Part 4 of the AI LAC Rules)	CET1 capital required to meet Bank B's LAC requirement	Remarks
External loss-absorbing capacity	26%	19%	= 19 – 2 – 2 - 8 = 7 units	Since Bank B has 2 units of Additional Tier 1 capital, 2 units of Tier 2 capital and 8 units of non-capital LAC debt resources, the bank need to make use of an additional 1.5 units of CET1 capital to meet its total LAC requirement

Net CET 1 Capital	= 14.0 - 7.0 = 7.0 units
Net CET1 Capital Ratio	**= 7.0 / 100** **= 7.0%**

Completion Instructions

Return of Capital Adequacy Ratio
Part II – Capital Base
Form MA(BS)3(II)

Introduction

1. Form MA(BS)3(II) should be completed by an authorized institution (the institution) incorporated in Hong Kong to determine its capital base for the calculation of capital adequacy ratios (CAR).

2. This Form and its completion instructions should be read in conjunction with Banking (Capital) Rules (BCR) and the relevant supervisory policy/guidance as applicable.

3. The institution shall refer to sections 2, 3 and 35 of the BCR for the interpretation of the terms used in this form and its completion instructions.

4. The overall structure of the capital base calculation according to Part 3 of the BCR is as follows –

Table A

	Components of Capital Base	**Reference to the BCR**
(A1)	Elements of Common Equity Tier 1 (CET1) Capital	Sections 38(1) and (3)
(A2)	Deductions from CET1 Capital (including items excluded under section 38(2))	Sections 38(2) and 43 to 46
(A3)	**CET1 Capital = A1 – A2**	
(A4)	Elements of Additional Tier 1 (AT1) Capital	Section 39
(A5)	Deductions from AT1 Capital	Section 47
(A6)	**AT1 Capital = A4 – A5**	
(A7)	**Tier 1 (T1) Capital = A3 + A6**	Section 37
(A8)	Elements of Tier 2 (T2) Capital	Section 40
(A9)	Deductions from T2 Capital	Section 48
(A10)	**T2 Capital = A8 – A9**	
(A11)	**Total Capital = A7 + A10**	Section 36

Specific Instructions

Item	Nature of item
Part II	**Capital Base**

5. For the purpose of calculating the institution's CAR, the capital base of the institution shall be the sum of the institution's Tier 1 capital (being the sum of the Common Equity Tier 1 (CET1) capital and Additional Tier 1 capital) and Tier 2 capital, calculated in Hong Kong dollars after taking into account items excluded under section 38(2) and regulatory deductions specified in Part 3 Division 4 and subject to the transitional arrangements specified in Schedule 4H of the BCR[1].

6. However, having considered its own circumstances, the institution may choose not to apply the transitional arrangements set out in section 5 of Schedule 4H for phasing out non-eligible capital instruments. Under that circumstance, the institution must inform the HKMA in writing of its decision, and must not change the decision thereafter without the prior consent of the HKMA.

7. The institution shall include in its CET1 capital, Additional Tier 1 capital or Tier 2 capital the proceeds of eligible instruments only to the extent that the instruments have been paid-up and are immediately available to the issuer of the instrument; or in the case of Additional Tier 1 or Tier 2 capital instruments are not issued out of an operating entity or any holding company of the institution, an operating entity or the holding company of the institution, as the case may be.

8. As outlined in paragraphs 60 and 85, if the institution has insufficient capital in a particular tier from which to make the required deductions, the remainder of the deduction amount (i.e. after bringing the net capital for that tier to zero) should be deducted from the next higher tier of capital. There are specific line items on the return to accommodate these transfers in deductions up the tiers.

9. The new regulatory capital treatments on the institution's holdings of ***non-capital LAC liabilities*** set out in the completion instructions only take effect on 1 April 2019. For the first quarter position in 2019, this Part should still be

---

[1] While the transitional arrangements provided to AIs in relation to (i) capital deductions and (ii) recognition of minority interests and capital instruments issued by consolidated bank subsidiaries and held by third parties in authorized institution's capital base have ceased from 1 January 2018, the phase-out of ineligible capital instruments continues until 31 December 2021.

reported based on the last version of completion instructions (i.e. 03/2018). This amended version of completion instructions should be used for reporting this Part from the second quarter position in 2019 onwards.

Item	Nature of item
Category I	**Common Equity Tier 1 capital**[2]
(a)	CET1 capital instruments

10. Report the institution's (in case it is a joint-stock company) paid-up ordinary share capital (including voting ordinary shares and ordinary shares ranking equally with voting ordinary shares in all respects except the absence of voting rights) that meets the *Qualifying Criteria to be Met to be CET1 Capital* (CET1 Qualifying Criteria) set out in Schedule 4A of the BCR **except** any shares issued by the institution by virtue of capitalizing any property revaluation reserves of the institution referred to in item (l) of Category III below.

11. Report the institution's (in case it is an entity other than a joint-stock company) capital instrument that is equivalent to ordinary shares in terms of loss absorption and meets the CET1 Qualifying Criteria set out in Schedule 4A.

(b) Share premium

12. Report the amount of the institution's share premium arising from the issue of CET1 capital instruments referred to in item (a) of Category I above.

(c) Retained earnings

13. Report in item (c) the amount of profits and losses of the institution brought forward pursuant to prevailing accounting standards as at a particular date which include the institution's –

    (i) unaudited profit or loss for the current financial year; and

    (ii) profit or loss of the immediately preceding financial year pending audit completion.

    The amount of profits and losses, if any, that has been related to sub-paragraphs (i) and (ii) above should be separately reported in item (c)(i).

---

2 Any capital instruments issued to third parties via a special purpose vehicle must not be included in an institution's CET1 capital.

(d) Disclosed reserves[3]

14. Report the institution's disclosed reserves in item (d). The amount of revaluation reserves in relation to financial assets at fair value through other comprehensive income that has been included in item (d) should be separately reported in item (d)(i).

(e) Minority interests arising from CET1 capital instruments issued by the consolidated bank subsidiaries of the institution and held by third parties

15. Where the MA requires under section 3C of the BCR that the CAR of the institution is to be calculated on a ***consolidated basis*** in respect of the institution's bank subsidiaries, report in item (e) the applicable amount of minority interests, arising from the CET1 capital instruments issued by the consolidated bank subsidiaries of the institution (including retained earnings and reserves) and held by third parties, which is recognized as CET1 capital of the institution on a consolidated basis, as calculated in accordance with sections 2(1) and 3 of Schedule 4D (*Requirements to be Met for Minority Interests and Capital Instruments Issued by Consolidated Bank Subsidiaries and Held by Third Parties to be Included in Authorized Institution's Capital Base*) of the BCR.

16. The maximum amount of minority interests in the bank subsidiary that can be included in the CET1 capital of the institution on a consolidated basis is calculated as:

$$\mathbf{A - (B * C)}$$

where:

A gross amount of total qualifying CET1 capital instruments of the bank subsidiary issued to third parties

B *(If the bank subsidiary is incorporated in Hong Kong)*

surplus CET1 capital of the subsidiary = CET1 capital of the bank subsidiary (after taking into account items under section 38(2) and deductions under sections 43 to 46 of the BCR) less the lower of –

i. the sum of risk-weighted amount for credit risk,

[3] Excluding the amount of retained earnings reported in item (c) above.

market risk and operational risk[4] of the bank subsidiary, calculated on a solo basis or a solo-consolidated basis, as the case may be, multiplied by the percentage equal to the sum of –

(I) the minimum CET1 capital ratio that the bank subsidiary must comply with, on a solo basis or a solo-consolidated basis, as the case may be, under sections 3A and 3B of the BCR, and if applicable, as varied by the MA under section 97F of the Banking Ordinance (***specified minimum ratio***); and

(II) 2.5%, or

(Item i. corresponds to the minimum CET1 capital requirement of the bank subsidiary plus the capital conservation buffer of 2.5%)

ii. the portion of the sum of risk-weighted amount for credit risk, market risk and operational risk[4] of the institution calculated on a consolidated basis, that relates to the bank subsidiary, multiply by the percentage equal to the sum of –

(I) the minimum CET1 capital ratio that the institution must comply with on a consolidated basis, under sections 3A and 3B of the BCR and, if applicable, as varied by the MA under section 97F of the Banking Ordinance (***specified minimum ratio***); and

(II) 2.5%.

(Item ii. corresponds to the portion, calculated as the consolidated minimum CET1 capital requirement plus the capital conservation buffer of 2.5%, that relates to the subsidiary)

Or

(If the bank subsidiary is not incorporated in Hong Kong)

surplus CET1 capital of the subsidiary = CET1 capital of the bank subsidiary (after taking into account items

[4] When the relevant provisions in relation to sovereign concentration risk set out in the Banking (Capital) (Amendment) Rules 2018 come into operation on 1 July 2019, the institution must include risk-weighted amount for sovereign concentration risk, if any, for calculating the sum of total risk-weighted amount.

under section 38(2) and deductions under sections 43 to 46 of the BCR) less –

iii. the portion of the sum of risk-weighted amount for credit risk, market risk and operational risk[4] of the institution calculated on a consolidated basis, that relates to the bank subsidiary, multiply by the percentage equal to the sum of –

(I) the minimum CET1 capital ratio that the institution must comply with on a consolidated basis, under sections 3A and 3B of the BCR and, if applicable, as varied by the MA under section 97F of the Banking Ordinance (***specified minimum ratio***); and

(II) 2.5%.

(Item iii. corresponds to the portion, calculated as the consolidated minimum CET1 capital requirement plus the capital conservation buffer of 2.5%, that relates to the subsidiary)

<u>Note:</u>

An institution may choose to use **4.5%** (***substitute percentage***) instead of the ***specified minimum ratio*** referred to in items B.i.(I), B.ii.(I) and B.iii.(I) above.

C percentage of CET1 capital instruments of the bank subsidiary held by third parties

17. The calculation as shown above must be undertaken for each individual bank subsidiary separately. If the institution has chosen to use the ***substitute percentage***, it must not, without the MA's prior consent, use the ***specified minimum ratio*** subsequently. In addition, an institution must use only either the specified minimum ratio or the ***substitute percentage*** in respect of all of its bank subsidiaries that are members of its consolidation group.

18. **<u>Annex II-A</u>** is an illustrative example on how to calculate the applicable amount of minority interests and capital instruments issued by consolidated bank subsidiaries and held by third parties to be included in an institution's capital base.

19. Starting from 1 January 2018, any minority interest or a

capital instrument issued by a subsidiary of the institution (that is subject to a section 3C requirement and held by third parties) which was no longer eligible for inclusion in the institution's capital base on 1 January 2013 but was included in the calculation of the institution's core capital and supplementary capital before that date should be fully excluded from the capital base of the institution.

CET1 Capital Before Deductions (A)

20. This is the sum of items (a) to (e) in Column 2.

Regulatory deductions from CET1 Capital

21. The institution must exclude/deduct items (f)(i) to (f)(xxii) from its CET1 capital, if applicable, in accordance with the provisions set out in Part 3 of the BCR.

With respect to the regulatory deduction of an institution's LAC investments in capital instruments issued by or non-capital LAC liabilities of financial sector entities and capital investments in commercial entities, **Annex II-B** provides an illustration showing the relevant components of different types of LAC investments and loans, facilities or credit exposures that are required to be deducted from CET1 capital, Additional Tier 1 capital and Tier 2 capital under the BCR.

(f)(i) Cumulative cash flow hedge reserves that relate to the hedging of financial instruments that are not fair valued on the balance sheet

22. Report the amount of cumulative cash flow hedge reserves that relates to the hedging of financial instruments that are not fair valued on the balance sheet (including projected cash flows) in this item. **Net fair value losses on revaluation of cash flow hedge should be added back to the institution's CET1 capital and reported in item (f)(i) with a negative sign.**

(f)(ii) Cumulative fair value gains or losses on liabilities of the institution that are fair-valued and result from changes in the institution's own credit risk

23. Report the amount of cumulative fair value gains or losses on liabilities of the institution that are fair-valued and result from changes in the institution's own credit risk except any debit valuation adjustments for derivative contracts arising

from the institution's own credit risk referred to in item (f)(xii). **Net fair value losses on revaluation of liabilities arising from changes in the institution's own credit risk should be added back to the institution's CET1 capital and reported in item (f)(ii) with a negative sign.**

(f)(iii) Cumulative fair value gains arising from the revaluation of land and buildings

24. Report the amount of –

(i) cumulative fair value gains arising from the revaluation of the institution's holdings of land and buildings (whether for the institution's own use or for investment purposes); and

(ii) cumulative fair value gains generated from any transaction or arrangement entered into between the institution and another member of the institution's consolidation group involving the disposal of land and buildings (whether for the institution's own use or for investment purposes) that are held by the institution, or that other member, unless otherwise approved by the MA.

For the avoidance of doubt, such gains whether net or gross of deferred tax liability should be based on the prevailing accounting standards applicable within a given jurisdiction.

(f)(iv) Regulatory reserve for general banking risks[5]

25. Report the institution's regulatory reserve for general banking risks (either by earmarking approach or appropriation approach) referred to in section 38(2)(e) of the BCR.

(f)(v) Goodwill

26. Report the amount of any goodwill that is recognized by the institution as an intangible asset of the institution, net of any associated deferred tax liabilities.

(f)(vi) Other Intangible Assets

27. Report the amount of other intangible assets (including mortgage servicing rights) of the institution, net of any

[5] Please refer to the HKMA's Regulatory Treatment of Expected Loss Provisions under Hong Kong Financial Reporting Standard 9 in Annex II-C.

associated deferred tax liabilities. The amount of mortgage servicing rights that has been included in this item should be separately reported under item (f)(vi)(1).

(f)(vii) Defined benefit pension fund assets

28. Report the assets of any defined benefit pension fund or plan (except those of such assets to which the institution can demonstrate to the satisfaction of the MA that it has unrestricted and unfettered access), net of the amount of obligations under the fund or plan and any associated deferred tax liabilities.

(f)(viii) Deferred tax assets in excess of deferred tax liabilities

29. Report the amount of deferred tax assets, net of deferred tax liabilities (excluding those associated with and already net against the deduction of the amount of goodwill, other intangible assets and assets of any defined benefit pension fund or plan) of the institution.

30. Deferred tax assets may be netted with deferred tax liabilities only if the deferred tax assets and deferred tax liabilities relate to taxes levied by the same taxation authority and offsetting is permitted by the relevant taxation authority.

(f)(ix) Credit-enhancing interest-only strip, and any gain-on-sale and other increase in the CET1 capital arising from securitization transactions

31. Report the amount of any credit-enhancing interest-only strip, and gain-on-sale and other increase in the CET1 capital resulting from securitization transactions (whether held in the banking book or trading book) in which the institution is the originating institution.

32. The amount to be reported in item (f)(ix) of Part II should be consistent with the sum of the figures reported in items B1, B2 and B3 under "Total amount" column of Division A of Form MA(BS)3(IIId) and item B.1 under "Total" column of Division A.1(b) of Form MA(BS)3(IV).

(f)(x) Securitization exposures specified in a notice given by the MA

33. Report the amount of any securitization exposure of the institution (whether held in the banking book or trading book) that the MA may, by notice in writing given to the institution, require the institution to deduct from its CET1 capital.

34. The amount to be reported in item (f)(x) of Part II should be consistent with the sum of the figures reported in item B4 under "Total amount" column of Division A of Form MA(BS)3(IIId) and item B.2 under "Total" column of Division A.1(b) of Form MA(BS)3(IV).

(f)(xi) Valuation adjustments

35. Where the application of paragraph 4.5 of the SPM module on "Financial Instrument Fair Value Practices" (CA-S-10) has led to a lower carrying value than actually recognized under the current financial reporting standards as a result of valuation adjustments made, the absolute value of the difference should be reported in item (f)(xi) except:

(i) if that exposure is a financial instrument that gives rise to the cash flow hedge reserves that fall within item (f)(i) above; and

(ii) such part of the absolute value that have been taken into account in the calculation of the amount of the institution's retained earnings or other disclosed reserves (or part of the retained earnings or other disclosed reserves) that fall within items (c) and (d) above.

(f)(xii) Debit valuation adjustments (DVAs) in respect of derivative contracts

36. Report the amount of any DVAs made by the institution in respect of derivative contracts arising from the institution's own credit risk (which must not be offset by any accounting valuation adjustments arising from the institution's counterparty credit risk).

(f)(xiii) Excess of *total EL amount* over *total eligible provisions*[6] under the IRB Approach

37. For an institution that adopts the IRB approach for its credit risk, if its total EL amount exceeds its total eligible provisions, it must deduct the excess amount of total EL amount over total eligible provisions from the institution's CET1 capital.

(f)(xiv) Cumulative losses below depreciated cost arising from the

[6] Please refer to the HKMA's Regulatory Treatment of Expected Loss Provisions under Hong Kong Financial Reporting Standard 9 in Annex II-C.

institution's holdings of land and buildings

38. Report any cumulative losses[7] of the institution arising from the institution's holdings of land and buildings below the depreciated cost value (whether or not any such land and buildings are held for the institution's own-use or for investment purposes) referred to in section 41(4) of the BCR.

(f)(xv) Capital shortfall of regulated non-bank subsidiaries

39. Report the amount of any relevant capital shortfall as specified in a notice under section 45(1)(b) of the BCR given to the institution in respect of a subsidiary of the institution that is a securities firm or insurance firm.

40. The capital shortfall amount to be reported in item (f)(xv) is in addition to any other deductions the institution is required to make above, as applicable, from its CET1 capital in respect of the subsidiary concerned of the institution; and represents the amount by which that subsidiary is deficient in meeting its minimum capital requirements.

41. For the avoidance of doubt, the institution's investment in any of its subsidiary securities and/or insurance firms which are subject to deductions above, as applicable, should be net of any goodwill relating to such investment in subsidiary securities and/or insurance firms which is already deducted from CET1 capital and reported in item (f)(v) above.

(f)(xvi) Investments in own CET1 capital instruments

42. Report the amount of any direct, indirect and synthetic holdings by the institution of its own CET1 capital instruments, unless already derecognized under applicable accounting standards, calculated in accordance with Schedule 4E of the BCR. For this purpose, the institution must:

(i) exclude holdings of capital instruments issued by financial sector entities that are not included within regulatory capital in the relevant financial sectors in which those entities operate;

(ii) reduce the amount to be deducted under item (f)(xvi) by

[7] The "cumulative losses" here refer to the losses represented by any negative difference between the fair value and the depreciated cost value of the institution's properties (the latter is calculated as the cost of the building minus its accumulated depreciation, if any). To the extent that any amount of such "cumulative losses" has not been recognised as "impairment loss" through profit and loss account, the amount will need to be deducted from CET1 capital.

any amount of goodwill (related to any holdings of shares falling within other items) already deducted under section 43(1)(a) of the BCR; and

(iii) include in the amount to be deducted under item (f)(xvi) potential future holdings that the institution could be contractually obliged to purchase. In this connection, the HKMA will generally follow the applicable accounting treatment. In case there are areas where the regulatory treatment is different from the accounting treatment, the HKMA will consider each scenario on a case by case basis. The general principle is that if a transaction is subject to conditions precedent which will lead to the institution holding a capital position upon completion of the transaction where the fulfilment of any of the outstanding conditions is beyond the control of the institution, it may treat the uncompleted transaction as not constituting a potential future holding.

(f)(xvii) <u>Reciprocal cross holdings in CET1 capital instruments</u>

43. Report the amount of any direct, indirect and synthetic holdings by the institution of CET1 capital instruments issued by any financial sector entities where that entity has a reciprocal cross holding with the institution. For this purpose, the institution must:

(i) exclude holdings of capital instruments issued by financial sector entities that are not included within regulatory capital in the relevant financial sectors in which those entities operate;

(ii) reduce the amount to be deducted under item (f)(xvii) by any amount of goodwill (related to any holdings of shares falling within other items) already deducted under section 43(1)(a) of the BCR; and

(iii) include in the amount to be deducted under item (f)(xvii) potential future holdings that the institution could be contractually obliged to purchase. In this connection, the HKMA will generally follow the applicable accounting treatment. In case there are areas where the regulatory treatment is different from the accounting treatment, the HKMA will consider each scenario on a case by case basis. The general principle is that if a transaction is subject to conditions precedent which will lead to the institution holding a capital position upon completion of the transaction where the fulfilment of any of the outstanding conditions is

beyond the control of the institution, it may treat the uncompleted transaction as not constituting a potential future holding.

(f)(xviii) <u>Capital investment in a connected company which is a commercial entity</u>

(f)(xviii)(1) <u>Loans, facilities or other credit exposures that is required by section 46(1) of BCR to be aggregated with item (f)(xviii)</u>

44. Report in item (f)(xviii) the amount of the sum of the following to the extent that such sum is in excess of 15% of the capital base of the institution as reported in its capital adequacy ratio return as at the immediately preceding calendar quarter end date:

(i) the net book value of any capital investment in a connected company of the institution where that connected company is a commercial entity; and

(ii) any loans, facilities or other credit exposures provided by the institution to any connected company of the institution where the connected company is a commercial entity as if such loans, facilities or other credit exposures were direct capital investment by the institution in the commercial entity, except where the institution demonstrates to the satisfaction of the MA that any such loan was made, facility granted or other credit exposure incurred in the ordinary course of business.

45. Report separately in item (f)(xviii)(1) the amount of any loans, facilities or other credit exposures described in paragraph 44(ii) above that is included in the amount reported in item (f)(xviii).

(f)(xix) <u>Insignificant LAC investments in CET1 capital instruments issued by financial sector entities that are not subject to consolidation under a section 3C requirement and not covered by the 10% threshold</u>

(f)(xix)(1) <u>Loans, facilities or other credit exposures that is required by section 46(2) of BCR to be aggregated with item (f)(xix)</u>

46. Subject to paragraphs 47 and 48, report in item (f)(xix) the sum of the applicable amounts of the following:

(i) the amount of direct , indirect and synthetic holdings of CET1 capital instruments issued by financial sector entities, calculated in accordance with Schedule 4F of the BCR, if – (a) the entities are not

the subject of consolidation under a section 3C requirement; (b) the holdings are ***insignificant LAC investments***; and (c) the holdings do not otherwise fall within items (f)(xvi) and (f)(xvii) above; and

(ii) any loans, facilities or other credit exposures provided by the institution to any connected companies of the institution where the connected company is a financial sector entity, except where the institution demonstrates to the satisfaction of the MA that any such loan was made, facility was granted or any such other credit exposure was incurred in the ordinary course of the institution's business.

47. For the purposes of paragraph 46(i), the institution must:

(i) exclude holdings of capital instruments issued by financial sector entities that are not included within regulatory capital in the relevant financial sectors in which those entities operate;

(ii) reduce the amount to be deducted under item (f)(xix) by any amount of goodwill (related to any holdings of shares falling within other items) already deducted under section 43(1)(a) of the BCR; and

(iii) include in the amount to be deducted under item (f)(xix) potential future holdings that the institution could be contractually obliged to purchase. In this connection, the HKMA will generally follow the applicable accounting treatment. In case there are areas where the regulatory treatment is different from the accounting treatment, the HKMA will consider each scenario on a case by case basis. The general principle is that if a transaction is subject to conditions precedent which will lead to the institution holding a capital position upon completion of the transaction where the fulfilment of any of the outstanding conditions is beyond the control of the institution, it may treat the uncompleted transaction as not constituting a potential future holding.

48. The applicable amount to be deducted from the institution's CET1 capital under paragraph 46 above should be determined by the formula in the first column of the following table:

Applicable Amount	Reference to Schedule 4F of the BCR
(For deduction of holdings by an institution that is a "***section 2 institution***" as defined in section 2 of Schedule 4F to the BCR[8])	
Excess(10% threshold)(net long) * CET1 percentage	Sections 1, 2, 4
(For deduction of holdings by an institution that is a "***section 3 institution***" (within the meaning of section 3 of Schedule 4F to the BCR) or treated as such by virtue of section 2(2) of Schedule 4F)	
Excess(10% threshold)(net long) * CET1 percentage	Sections 1, 3, 4

Annex II-D is an illustrative example on how to calculate the applicable amount of insignificant and significant LAC investments to be deducted from CET1 capital, Additional Tier 1 capital and Tier 2 capital.

49. Report separately in item (f)(xix)(1) the amount of any loans, facilities or other credit exposures described in paragraph 46(ii) above that is included in the amount reported in item (f)(xix).

50. The amount of insignificant LAC investments issued by financial sector entities that do not exceed the 10% threshold referred to in paragraph 48 above and that are not deducted from an institution's CET1 capital is to continue to be risk-weighted in accordance with the applicable risk-weight under Part 4, 5, 6 or 8 of the BCR, as the case requires.

(f)(xx) Significant LAC investments in CET1 capital instruments issued by financial sector entities that are not subject to consolidation under a section 3C requirement and not covered by the 10% threshold

(f)(xx)(1) Loans, facilities or other credit exposures provided that is required by section 46(2) of BCR to be aggregated with item (f)(xx)

51. Subject to paragraphs 52 and 53, report in item (f)(xx) the sum of the applicable amounts of the following:

(i) the amount of the institution's direct, indirect and synthetic holdings of CET1 capital instruments issued

[8] (Viz., a ***resolution entity*** or ***material subsidiary*** but exclude any material subsidiary that has obtained the MA's prior consent to be treated as a "section 3 institution" (within the meaning of section 3 of Schedule 4F)).

by financial sector entities, calculated in accordance with Schedule 4G, if – (a) the entities are not the subject of consolidation under a section 3C requirement imposed on the institution; (b) the holdings are ***significant LAC investments***; and (c) the holdings do not otherwise fall within items (f)(xvi) and (f)(xvii) above; and

(ii) any loans, facilities or other credit exposures provided by the institution to any connected company of the institution where the connected company is a financial sector entity, except where the institution demonstrates to the satisfaction of the MA that any such loan was made, facility was granted, or any such other credit exposure was incurred, in the ordinary course of the institution's business.

52. For the purposes of paragraph 51(i), the institution must:

(i) exclude holdings of capital instruments issued by financial sector entities that are not included within regulatory capital in the relevant financial sectors in which those entities operate;

(ii) reduce the amount to be deducted under item (f)(xx) by any amount of goodwill (related to any holdings of shares falling within other items) already deducted under section 43(1)(a) of the BCR; and

(iii) include in the amount to be deducted under item (f)(xx) potential future holdings that the institution could be contractually obliged to purchase. In this connection, the HKMA will generally follow the applicable accounting treatment. In case there are areas where the regulatory treatment is different from the accounting treatment, the HKMA will consider each scenario on a case by case basis. The general principle is that if a transaction is subject to conditions precedent which will lead to the institution holding a capital position upon completion of the transaction where the fulfilment of any of the outstanding conditions is beyond the control of the institution, it may treat the uncompleted transaction as not constituting a potential future holding.

53. For the purpose of determining the applicable amount of an institution's significant LAC investment in CET1 capital instruments issued by financial sector entities referred to in paragraph 51 above, such amount must be calculated by:

(G – H)

where:

G gross amount of the institution's significant LAC investments that are CET1 capital instruments issued by and credit exposures to financial sector entities, as described in paragraphs 51(i) and (ii) above

H 10% of the institution's CET1 capital, calculated after applying all deductions under items (f)(i) to (f)(xix), (f)(xxi) and (f)(xxii)

<u>**Annex II-D**</u> is an illustrative example on how to calculate the applicable amount of insignificant and significant LAC investments to be deducted from CET1 capital, Additional Tier 1 capital and Tier 2 capital.

54. Report separately in item (f)(xx)(1) the amount of any loans, facilities or other credit exposures described in paragraph 51(ii) above that is included in the amount reported in item (f)(xx).

55. The amount of an institution's significant LAC investments that are CET1 capital instruments of a financial sector entity that does not exceed the 10% threshold referred to in paragraph 53 above and that is not deducted from its CET1 capital must be risk-weighted at 250%.

(f)(xxi) <u>Direct holdings of CET1 capital instruments issued by financial entities that are members of the institution's consolidation group</u>

(f)(xxi)(1) <u>Loans, facilities or other credit exposures that is required by section 46(2) of BCR to be aggregated with item (f)(xxi)</u>

56. Items (f)(xxi) and (f)(xxi)(1) are applicable only for institution who calculates its CAR on a solo/solo-consolidated basis under a section 3C requirement.

57. Subject to paragraph 58, report in item (f)(xxi) the sum of the applicable amounts of the following:

(i) the institution's direct holdings of CET1 capital instruments issued by financial sector entities that are members of the institution's consolidation group; and

(ii) any loans, facilities or other credit exposures provided by the institution to any connected companies of the institution where the connected company is a financial sector entity, except where the

institution demonstrates to the satisfaction of the MA that any such loan was made, facility granted or other credit exposure incurred in the ordinary course of the institution's business.

58. For the purposes of paragraph 57(i) above, the institution must:

(i) exclude holdings of capital instruments issued by financial sector entities that are not included within regulatory capital in the relevant financial sectors in which those entities operate;

(ii) reduce the amount to be deducted under item (f)(xxi) by any amount of goodwill (related to any holdings of shares falling within other items) already deducted under section 43(1)(a) of the BCR; and

(iii) include in the amount to be deducted under item (f)(xxi) potential future holdings that the institution could be contractually obliged to purchase. In this connection, the HKMA will generally follow the applicable accounting treatment. In case there are areas where the regulatory treatment is different from the accounting treatment, the HKMA will consider each scenario on a case by case basis. The general principle is that if a transaction is subject to conditions precedent which will lead to the institution holding a capital position upon completion of the transaction where the fulfilment of any of the outstanding conditions is beyond the control of the institution, it may treat the uncompleted transaction as not constituting a potential future holding.

59. Report separately in item (f)(xxi)(1) the amount of any loans, facilities or other credit exposures described in paragraph 57(ii) above that is included in the amount reported in item (f)(xxi).

(f)(xxii) Regulatory deductions applied to CET1 capital due to insufficient Additional Tier 1 capital to cover the required deductions

60. The institution should deduct from its CET1 capital the amount required to be deducted from Additional Tier 1 capital by virtue of section 47 of the BCR that exceeds the Additional Tier 1 capital of the institution.

61. If the institution's Additional Tier 1 capital before deductions **(C)** is less than the sum of deduction items (i)(i) to (i)(vi), then:

- report "0" in Additional Tier 1 capital after deductions **(D)**; and

- report the sum of items (i)(i) to (i)(vi) minus Additional Tier 1 capital before deductions **(C)** in item (f)(xxii).

<u>CET1 Capital After Deductions **(B)**</u>

62. This is the sum of items (a) to (e) in Column 2 after making the deductions specifically required from CET1 capital (i.e. items (f)(i) to (f)(xxii)).

63. This is also the figure to be reported in item 1.1(i) of Division A of Form MA(BS)3(I).

Category II **Additional Tier 1 capital**

(g) Additional Tier 1 capital instruments issued and share premium

(g)(i) Amount of capital instruments reported in item (g) that is subject to phase out

64. Report in item (g) the amount of:

    (i) the institution's capital instruments that meet the *Qualifying Criteria to be Met to be Additional Tier 1 Capital* (AT1 Qualifying Criteria) set out in Schedule 4B of the BCR;

    (ii) the amount of the institution's share premium arising from the issue of capital instruments referred to in sub-paragraph (i) above; and

    (iii) the amount of capital instruments no longer qualified for inclusion in capital base after 1 January 2013 but eligible to be phased out from that date.

65. With respect to paragraph 64(iii) above, the capital instruments of the institution that were included in the institution's capital base immediately before 1 January 2013 but do not meet all the AT1 Qualifying Criteria set out in Schedule 4B must be phased out during the 10-year transition period beginning from that date. Report separately in item (g)(i) the amount of capital instruments issued before 1 January 2013 which are eligible to be phased out based on the transitional arrangements set out in **Annex II-E**.

    Annex II-F contains an illustration for determining the extent of recognition of capital instruments as regulatory capital during the phase out period.

66. Additional Tier 1 capital instruments issued to third parties by the institution through a special purpose vehicle may be included in the Additional Tier 1 capital of the institution on a consolidated basis as if the institution itself had issued the capital instruments directly to third parties, provided that:

    (i) the special purpose vehicle is consolidated with the institution;

    (ii) the capital instruments meet the AT1 Qualifying Criteria set out in Schedule 4B of the BCR; and

    (iii) the only asset of the special purpose vehicle is its investment in the capital of the institution in a form that

meets the AT1 Qualifying Criteria set out in Schedule 4B of the BCR[9].

(h) Applicable amount of capital instruments issued by the consolidated bank subsidiaries of the institution and held by third parties

67. Where the MA requires under section 3C of the BCR that the CAR of the institution is to be calculated on a ***consolidated basis*** in respect of the institution's bank subsidiaries, report in item (h) the applicable amount of capital instruments issued by the consolidated bank subsidiaries of the institution and held by third parties, which is recognized as Additional Tier 1 capital of the institution on a consolidated basis, and calculated in accordance with sections 2(2) and 4 of Schedule 4D (*Requirements to be Met for Minority Interests and Capital Instruments Issued by Consolidated Bank Subsidiaries and held by Third Parties to be included in Authorized Institution's Capital Base*) of the BCR.

68. The maximum amount of Tier 1 capital instruments (i.e. CET1 capital instruments and Additional Tier 1 capital instruments) issued by the bank subsidiary to third parties that can be included in the Tier 1 capital of the institution on a consolidated basis is calculated as:

A – (B * C)

where:

A gross amount of total qualifying Tier 1 capital instruments of the bank subsidiary issued to third parties

B *(If the bank subsidiary is incorporated in Hong Kong)*

surplus Tier 1 capital of the bank subsidiary = Tier 1 capital of the bank subsidiary (after taking into account items under section 38(2) and deductions under sections 43 to 47 of the BCR) less the lower of

i. the sum of risk-weighted amount for credit risk, market risk and operational risk[4] of the bank subsidiary, calculated on a solo basis or a solo-consolidated basis, as the case may be, and multiplied by the percentage equal to the sum of–

(I) the minimum Tier 1 capital ratio that the

[9] Assets that relate to the operation of the SPV may be excluded from this assessment if they are de minimis.

bank subsidiary must comply with, on a solo basis or a solo-consolidated basis, as the case may be, under sections 3A and 3B of the BCR, and if applicable, as varied by the MA under section 97F of the Banking Ordinance (***specified minimum ratio***); and

(II) 2.5%, or

(Item i. corresponds to the minimum Tier 1 capital requirement of the bank subsidiary plus the capital conservation buffer of 2.5%)

ii. the portion of the sum of risk-weighted amount for credit risk, market risk and operational risk[4] of the institution calculated on a consolidated basis, that relates to the bank subsidiary, multiply by the percentage equal to the sum of–

(I) the minimum Tier 1 capital ratio that the institution must comply with, on a consolidated basis, under sections 3A and 3B of the BCR and, if applicable, as varied by the MA under section 97F of the Banking Ordinance (***specified minimum ratio***); and

(II) 2.5%.

(Item ii. corresponds to the portion, calculated as the consolidated minimum Tier 1 capital requirement plus the capital conservation buffer of 2.5%, that relates to the subsidiary)

Or

(If the bank subsidiary is not incorporated in Hong Kong)

surplus Tier 1 capital of the bank subsidiary = Tier 1 capital of the bank subsidiary (after taking into account items under section 38(2) and deductions under sections 43 to 47 of the BCR) less –

iii. the portion of the sum of risk-weighted amount for credit risk, market risk and operational risk[4] of the institution calculated on a consolidated basis, that relates to the bank subsidiary, multiply by the percentage equal to the sum of –

(I) the minimum Tier 1 capital ratio that the institution must comply with, on a consolidated basis, under sections 3A and

3B of the BCR and, if applicable, as varied by the MA under section 97F of the Banking Ordinance (***specified minimum ratio***); and

(II) 2.5%.

(Item iii. corresponds to the portion, calculated as the consolidated minimum Tier 1 capital requirement plus the capital conservation buffer of 2.5%, that relates to the subsidiary)

Note:

An institution may choose to use **6%** (***substitute percentage***) instead of the ***specified minimum ratio*** referred to in items B.i.(I), B.ii.(I) and B.iii.(I) above.

C percentage of Tier 1 capital instruments of the bank subsidiary held by third parties

69. The amount of Tier 1 capital recognized in the Additional Tier 1 capital of an institution on a consolidated basis must exclude the portion that has been recognized in the consolidated CET1 capital under paragraph 15 above.

70. The calculation as shown above must be undertaken for each individual bank subsidiary separately. If the institution has chosen to use the ***substitute percentage***, it must not, without the MA's prior consent, use the specified minimum ratio subsequently. In addition, the institution must use only either the ***specified minimum*** ratio or the substitute percentage in respect of all of its bank subsidiaries that are members of its consolidation group.

71. **Annex II-A** is an illustrative example on how to calculate the applicable amount of minority interests and capital instruments issued by consolidated bank subsidiaries and held by third parties to be included in the institution's capital base.

72. Starting from 1 January 2018, any minority interest or a capital instrument issued by a subsidiary of the institution (that is subject to a section 3C requirement and held by third parties) which was no longer eligible for inclusion in the institution's capital base on 1 January 2013 but was included in the calculation of the institution's core capital before that date should be fully excluded from the capital base of the institution.

73. If the institution issues capital instrument to third parties through a special purpose vehicle via a consolidated bank subsidiary of the institution and -

(i) the special purpose vehicle is consolidated with the bank subsidiary;

(ii) the capital instruments meet the AT1 Qualifying Criteria set out in Schedule 4B of the BCR; and

(iii) the only asset of the special purpose vehicle is its investment in the capital of the bank subsidiary in a form that meets the AT1 Qualifying Criteria set out in Schedule 4B of the BCR[10],

the institution may treat the capital institutions as if the bank subsidiary itself had issued the capital instrument directly to the third parties, and may include the capital instruments in determining the applicable amount of the capital instruments to be included in the Additional Tier 1 capital of the institution on a consolidated basis as stipulated in paragraph 67 above.

<u>Additional Tier 1 Capital Before Deductions (C)</u>

74. This is the sum of items (g) and (h) in Column 2.

Regulatory deductions from Additional Tier 1 Capital

75. The institution must deduct the following items from its Additional Tier 1 capital in accordance with the provisions set out in Part 3 of the BCR.

With respect to the regulatory deduction of an institution's LAC investments in capital instruments issued by and non-capital LAC liabilities of financial sector entities and capital investments in commercial entities, **<u>Annex II-B</u>** provides an illustration showing the relevant components of different types of LAC investments and loans, facilities or credit exposures that are required to be deducted from CET1 capital, Additional Tier 1 capital and Tier 2 capital under the BCR.

(i)(i) <u>Investments in own Additional Tier 1 capital instruments</u>

---

10 Assets that relate to the operation of the SPV may be excluded from this assessment if they are de minimis.

76. Report the amount of any direct, indirect and synthetic holdings by the institution of its own Additional Tier 1 capital instruments, unless already derecognized under applicable accounting standards, calculated in accordance with the provisions of Schedule 4E of the BCR. For this purpose, the institution must:

(i) exclude holdings of capital instruments issued by financial sector entities that are not included within regulatory capital in the relevant financial sectors in which those entities operate;

(ii) reduce the amount to be deducted under item (i)(i) by any amount of goodwill (related to any holdings of Additional Tier 1 capital instruments falling within other items) already deducted under section 43(1)(a) of the BCR; and

(iii) include in the amount to be deducted under item (i)(i) potential future holdings that the institution could be contractually obliged to purchase. In this connection, the HKMA will generally follow the applicable accounting treatment. In case there are areas where the regulatory treatment is different from the accounting treatment, the HKMA will consider each scenario on a case by case basis. The general principle is that if a transaction is subject to conditions precedent which will lead to the institution holding a capital position upon completion of the transaction where the fulfilment of any of the outstanding conditions is beyond the control of the institution, it may treat the uncompleted transaction as not constituting a potential future holding.

(i)(ii) Reciprocal cross holdings in Additional Tier 1 capital instruments

77. Report the amount of any direct, indirect and synthetic holdings by the institution of Additional Tier 1 capital instruments issued by financial sector entity where that entity has a reciprocal cross holding with the institution. For this purpose, the institution must:

(i) exclude holdings of capital instruments issued by financial sector entities that are not included within regulatory capital in the relevant financial sectors in which those entities operate;

(ii) reduce the amount to be deducted under item (i)(ii) by any amount of goodwill (related to any holdings of

shares falling within other items) already deducted under section 43(1)(a) of the BCR; and

(iii) include in the amount to be deducted under item (i)(ii) potential future holdings that the institution could be contractually obliged to purchase. In this connection, the HKMA will generally follow the applicable accounting treatment. In case there are areas where the regulatory treatment is different from the accounting treatment, the HKMA will consider each scenario on a case by case basis. The general principle is that if a transaction is subject to conditions precedent which will lead to the institution holding a capital position upon completion of the transaction where the fulfilment of any of the outstanding conditions is beyond the control of the institution, it may treat the uncompleted transaction as not constituting a potential future holding.

(i)(iii) Insignificant LAC investments in Additional Tier 1 capital instruments issued by financial sector entities that are not subject to consolidation under a section 3C requirement and not covered by the 10% threshold

78. Subject to paragraph 79 below, report the applicable amount of the institution's direct, indirect and synthetic holdings of Additional Tier 1 capital instruments issued by financial sector entities, calculated in accordance with Schedule 4F of the BCR, if – (a) the entities are not the subject of consolidation under a section 3C requirement imposed on the institution; (b) the holdings are insignificant LAC investments; and (c) the holdings do not otherwise fall within items (i)(i) and (i)(ii) above. For this purpose, the institution must:

(i) exclude holdings of capital instruments issued by financial sector entities that are not included within regulatory capital in the relevant financial sectors in which those entities operate;

(ii) reduce the amount to be deducted under item (i)(iii) by any amount of goodwill (related to any holdings of shares falling within other items) already deducted under section 43(1)(a) of the BCR; and

(iii) include in the amount to be deducted under item (i)(iii) potential future holdings that the institution could be contractually obliged to purchase. In this connection, the HKMA will generally follow the applicable accounting treatment. In case there are areas where the

regulatory treatment is different from the accounting treatment, the HKMA will consider each scenario on a case by case basis. The general principle is that if a transaction is subject to conditions precedent which will lead to the institution holding a capital position upon completion of the transaction where the fulfilment of any of the outstanding conditions is beyond the control of the institution, it may treat the uncompleted transaction as not constituting a potential future holding.

79. The applicable amount to be deducted from the institution's Additional Tier 1 capital under paragraph 78 above should be determined by the formula in the first column of the following table:

Applicable amount	**Reference to Schedule 4F of the BCR**
(For deduction of holdings by an institution that is a "section 2 institution" as defined in section 2 of Schedule 4F to the BCR[11])	
Excess(10% threshold)(net long) * AT1 percentage	Sections 1, 2, 4
(For deduction of holdings by an institution that is a "section 3 institution" (within the meaning of section 3 of Schedule 4F to the BCR) or treated as such by virtue of section 2(2) of Schedule 4F)	
Excess(10% threshold)(net long) * AT1 percentage	Sections 1, 3, 4

Annex II-D is an illustrative example on how to calculate the applicable amount of insignificant and significant LAC investments to be deducted from CET1 capital, Additional Tier 1 capital and Tier 2 capital.

80. The amount of insignificant LAC investments issued by financial sector entities that do not exceed the 10% threshold referred to in paragraph 79 above, and therefore not deducted from an institution's Additional Tier 1 capital, is to continue to be risk-weighted in accordance with the applicable risk-weight under Part 4, 5, 6 or 8 of the BCR, as the case requires.

(i)(iv) Significant LAC investments in Additional Tier 1 capital instruments issued by financial sector entities that are not subject to consolidation under a section 3C requirement

[11] (Viz., a ***resolution entity*** or ***material subsidiary*** but exclude any material subsidiary that has obtained the MA's prior consent to be treated as a "section 3 institution" (within the meaning of section 3 of Schedule 4F)).

81. Subject to paragraph 82 below, report the amount of the institution's direct, indirect and synthetic holdings of Additional Tier 1 capital instruments issued by financial sector entities, calculated in accordance with Schedule 4G of the BCR, if – (a) the entities are not the subject of consolidation under a section 3C requirement imposed on the institution; (b) the holdings are significant LAC investments; and (c) the holdings do not otherwise fall within items (i)(i) and (i)(ii) above. For this purpose, the institution must:

(i) exclude holdings of capital instruments issued by financial sector entities that are not included within regulatory capital in the relevant financial sectors in which those entities operate;

(ii) reduce the amount to be deducted under item (i)(iv) by any amount of goodwill (related to any holdings of shares falling within other items) already deducted under section 43(1)(a) of the BCR; and

(iii) include in the amount to be deducted under item (i)(iv) potential future holdings that the institution could be contractually obliged to purchase. In this connection, the HKMA will generally follow the applicable accounting treatment. In case there are areas where the regulatory treatment is different from the accounting treatment, the HKMA will consider each scenario on a case by case basis. The general principle is that if a transaction is subject to conditions precedent which will lead to the institution holding a capital position upon completion of the transaction where the fulfilment of any of the outstanding conditions is beyond the control of the institution, it may treat the uncompleted transaction as not constituting a potential future holding.

82. All significant LAC investments in capital instruments issued by financial sector entities that are not in the form of CET1 capital instruments must be fully deducted from an authorized institution's Additional Tier 1 capital or Tier 2 capital, as the case requires, by reference to the tier of capital for which the capital instruments would qualify if they were issued by the institution itself.

Annex II-D is an illustrative example on how to calculate the applicable amount of insignificant and significant LAC investments to be deducted from CET1 capital, Additional Tier 1 capital and Tier 2 capital.

(i)(v) Direct holdings of Additional Tier 1 capital instruments issued by financial sector entities that are members of the institution's consolidation group

83. Item (i)(v) is applicable only for institution who calculates its CAR on a solo/solo-consolidated basis under a section 3C requirement.

84. Report the amount of the institution's direct holdings of Additional Tier 1 capital instruments issued by financial sector entities that are members of the institution's consolidation group. For this purpose, the institution must:

(i) exclude holdings of capital instruments issued by financial sector entities that are not included within regulatory capital in the relevant financial sectors in which those entities operate;

(ii) reduce the amount to be deducted under item (i)(v) by any amount of goodwill (related to any holdings of shares falling within other items) already deducted under section 43(1)(a) of the BCR; and

(iii) include in the amount to be deducted under item (i)(v) potential future holdings that the institution could be contractually obliged to purchase. In this connection, the HKMA will generally follow the applicable accounting treatment. In case there are areas where the regulatory treatment is different from the accounting treatment, the HKMA will consider each scenario on a case by case basis. The general principle is that if a transaction is subject to conditions precedent which will lead to the institution holding a capital position upon completion of the transaction where the fulfilment of any of the outstanding conditions is beyond the control of the institution, it may treat the uncompleted transaction as not constituting a potential future holding.

(i)(vi) Regulatory deductions applied to Additional Tier 1 capital due to insufficient Tier 2 capital to cover the required deductions

85. The institution is required to make from its Tier 2 capital any regulatory deductions by virtue of section 48 of the BCR. Such deductions must be applied to Additional Tier 1 capital in case Tier 2 capital of the institution is not sufficient to cover the required deductions.

86. If the institution's Tier 2 capital before deductions **(F)** is less than the sum of deduction items (r)(i) to (r)(viii), then:

- report "0" in Tier 2 capital after deductions **(G)**; and

- report the sum of items (r)(i) to (r)(viii) minus Tier 2 capital before deductions **(F)** in item (i)(vi).

Additional Tier 1 Capital After Deductions **(D)**

87. This is the sum of items (g) and (h) in Column 2 after making the deductions specifically required from Additional Tier 1 capital (i.e. items (i)(i) to (i)(vi)). However, if an institution's Additional Tier 1 capital before deductions **(C)** is less than the sum of deduction items (i)(i) to (i)(vi), then report "0" in Additional Tier 1 capital deductions **(D)** and follows the instructions set out in paragraph 61.

88. This is also the figure to be reported in item 1.1(ii) of Division A of Form MA(BS)3(I).

Tier 1 Capital **(E)**

89. This is the sum of CET1 capital after deductions **(B)** and Additional Tier 1 capital after deductions **(D)**.

90. This is also the figure to be reported in item 1.1 of Division A of Form MA(BS)3(I).

Item Nature of item

Category III **Tier 2 Capital**

(j) Tier 2 capital instruments issued and share premium

(j)(i) Amount of capital instruments reported in item (j) that is subject to phase out arrangements

91. Report in item (j) the amount of:

    (i) the institution's capital instruments that meet the Tier 2 Qualifying Criteria as specified in Schedule 4C of the BCR;

    (ii) the amount of the institution's share premium arising from the issue of capital instruments referred to in sub-paragraph (i) above; and

    (iii) the amount of capital instruments no longer qualified for inclusion in capital base after 1 January 2013 but eligible to be phased out from that date.

92. With respect to paragraph 91(iii), the capital instruments of the institution that were included in the institution's capital base immediately before 1 January 2013 but that do not meet all the qualifying criteria set out in Schedule 4C must be phased out during the 10-year transition period beginning from that date. Report separately in item (j)(i) the amount of capital instruments issued before 1 January 2013 which are eligible to be phased out based on the transitional arrangements set out in **Annex II-E**.

    Annex II-F contains an illustration for determining the extent of recognition of capital instruments as regulatory capital during the phase out period.

93. Tier 2 capital instruments issued to third parties by the institution through a special purpose vehicle may be included in the Tier 2 capital of the institution on a consolidated basis as if the institution itself had issued the capital instruments to third parties, provided that:

    (i) the special purpose vehicle is consolidated with the institution;

    (ii) the capital instruments meet the qualifying criteria set out in Schedule 4C of the BCR; and

    (iii) the only asset of the special purpose vehicle is its

investment in the capital of the institution in a form that meets the Tier 2 Qualifying Criteria set out in Schedule 4C of the BCR[12].

(k) <u>Applicable amount of capital instruments issued by the consolidated bank subsidiaries of the institution and held by third parties</u>

94. Where the MA requires under section 3C of the BCR that the CAR of the institution is to be calculated on a ***consolidated basis*** in respect of the institution's bank subsidiaries, report in item (k) the applicable amount of capital instruments issued by the consolidated bank subsidiaries of the institution and held by third parties, which is recognized as Tier 2 capital of the institution on a consolidated basis, and calculated in accordance with sections 2(2) and 5 of Schedule 4D (*Requirements to be Met for Minority Interests and Capital Instruments Issued by Consolidated Bank Subsidiaries and held by Third Parties to be included in Authorized Institution's Capital Base*) of the BCR.

95. The maximum amount of all capital instruments (i.e. CET1 capital instruments, Additional Tier 1 capital instruments and Tier 2 capital instruments) issued by the bank subsidiary to third parties that can be included in the Total capital of the institution on a consolidated basis is calculated as:

A – (B * C)

where:

A gross amount of total qualifying capital instruments of the bank subsidiary issued to third parties

B <u>*(If the bank subsidiary is incorporated in Hong Kong)*</u>

surplus Total capital of the subsidiary = Total capital of the subsidiary (after taking into account items under section 38(2) and deductions under sections 43 to 48 of the BCR) <u>less</u> the lower of –

i. the sum of risk-weighted amount for credit risk, market risk and operational risk[4] of the bank subsidiary, calculated on a solo basis or a solo-consolidated basis, as the case may be, and multiply by the percentage equal to the sum of –

[12] Assets that relate to the operation of the SPV may be excluded from the assessment if they are de minimis.

(I) the minimum Total capital ratio that the bank subsidiary must comply with, on a solo basis or a solo-consolidated basis, as the case may be, under sections 3A and 3B of the BCR, and if applicable, as varied by the MA under section 97F of the Banking Ordinance (***specified minimum ratio***); and

(II) 2.5%, or

(Item i. corresponds to the minimum Total capital requirement of the bank subsidiary plus the capital conservation buffer of 2.5%)

ii. the portion of the sum of risk-weighted amount for credit risk, market risk and operational risk[4] of the institution calculated on a consolidated basis, that relates to the bank subsidiary, multiply by the percentage equal to the sum of –

(I) the minimum Total capital ratio that the institution must comply with on a consolidated basis, under sections 3A and 3B of the BCR and, if applicable, as varied by the MA under section 97F of the Banking Ordinance (***specified minimum ratio***); and

(II) 2.5%.

(Item ii. corresponds to the portion, calculated as the consolidated minimum Total capital requirement plus the capital conservation buffer of 2.5% that relates to the subsidiary)

Or

(If the bank subsidiary is not incorporated in Hong Kong)

surplus Total capital of the subsidiary = Total capital of the subsidiary (after taking into account items under section 38(2) and deductions under sections 43 to 48 of the BCR) less –

iii. the portion of the sum of risk-weighted amount for credit risk, market risk and operational risk[4] of the institution calculated on a consolidated basis, that relates to the bank subsidiary, multiply by the percentage equal to the sum of –

(I) the minimum Total capital ratio that the institution must comply with on a

consolidated basis, under sections 3A and 3B of the BCR and, if applicable, as varied by the MA under section 97F of the Banking Ordinance (***specified minimum ratio***); and

(II) 2.5%.

(Item iii. corresponds to the portion, calculated as the consolidated minimum Total capital requirement plus the capital conservation buffer of 2.5% that relates to the subsidiary)

<u>Note:</u>

An institution may choose to use **8%** (***substitute percentage***) instead of the ***specified minimum ratio*** referred to in items B.i.(I), B.ii.(I) and B.iii.(I) above.

C percentage of total capital instruments of the subsidiary held by third parties

96. The amount of Total capital recognized in the Tier 2 capital of an institution on a consolidated basis must exclude the portion that has been recognized in the consolidated Tier 1 capital under paragraph 67 above.

97. The calculation as shown above must be undertaken for each individual bank subsidiary separately. If the institution has chosen to use the substitute percentage, it must not, without the MA's prior consent, use the specified minimum ratio subsequently. In addition, the institution must use only either the specified minimum ratio or the substitute percentage in respect of all the bank subsidiaries of the institution that are members of its consolidation group.

98. **<u>Annex II-A</u>** is an illustrative example on how to calculate the applicable amount of minority interests and capital instruments issued by consolidated bank subsidiaries and held by third parties to be included in authorized institution's capital base.

99. Starting from 1 January 2018, any minority interest or a capital instrument issued by a subsidiary of the authorized institution (that is subject to a section 3C requirement and held by third parties) which was no longer eligible for inclusion in the institution's capital base on 1 January 2013 but was included in the calculation of the institution's supplementary capital before that date should be fully excluded from the capital base of the institution.

100. If the institution issues Tier 2 capital instrument to third parties through a special purpose vehicle via a consolidated bank subsidiary and -

(i) the special purpose vehicle is consolidated with the bank subsidiary;

(ii) the capital instruments meet the Tier 2 Qualifying Criteria set out in Schedule 4C of the BCR; and

(iii) the only asset of the special purpose vehicle is its investment in the capital of the bank subsidiary in a form that meets the Tier 2 Qualifying Criteria set out in Schedule 4C of the BCR[13],

the institution may treat the capital institutions as if the bank subsidiary itself had issued the capital instrument directly to third parties, and may include the capital instruments in determining the applicable amount of the capital instruments to be included in the consolidated Additional Tier 1 capital of the institution as mentioned in paragraph 94 above.

(l) Reserves attributable to fair value gains on revaluation of the institution's holdings of land and buildings[14]

101. Subject to paragraphs 102, 103, 104 and 106, report in this item the institution's reserves and retained earnings that is attributable to fair value gains arising from:

(i) the revaluation of the institution's holdings of land and buildings except land and buildings mortgaged to the institution to secure a debt;

(ii) the revaluation of the institution's share of the net asset value of any subsidiary of the institution to the extent that the value has changed as a result of the revaluation of the subsidiary's holdings of land and buildings except any land and buildings mortgaged to the subsidiary to secure a debt; and

(iii) disposal of land and buildings (whether for the institution's own-use or for investment purposes)

[13] Assets that relate to the operation of the SPV may be excluded from the assessment if they are de minimis.

[14] According to sections 29, 30 and 31 of the BCR, the institution is allowed to deduct the portion of reserves not recognized in Tier 2 capital (i.e. the amount of the 55% haircut) from the institution's total risk-weighted amount. Such deductible amount should be reported in item 2.12(ii) of Division A of Form MA(BS)3(I).

referred to in section 38(2)(d) of the BCR.

Provided that:

(a) the institution has a clearly documented policy on the frequency and method of revaluation of its holdings of land and buildings that is satisfactory to the MA;

(b) the institution does not depart from that policy except after consultation with the MA;

(c) subject to sub-paragraph (d) below, any revaluation of the institution's holdings of land and buildings is undertaken by an independent professional valuer;

(d) in any case where the institution demonstrates to the satisfaction of the MA that, despite all reasonable efforts, it has been unable to obtain the services of an independent professional valuer to undertake the revaluation of all or part, as the case may be, of the institution's holdings of land and buildings, any revaluation of such holdings undertaken by a person who is not an independent professional valuer is endorsed in writing by an independent professional valuer;

(e) any revaluation of the institution's holdings of land and buildings is approved by the institution's external auditors of the institution and explicitly reported in the institution's audited accounts; and

(f) the fair value gains relating to paragraphs 101(i) to (iii) above are recognized in accordance with applicable accounting standards and any such gains not recognized in the financial statements of the institution are excluded.

102. The shares issued by the institution through capitalizing that part of the institution's reserves and retained earnings that is attributable to fair value gains described in paragraph 101 above is allowed to be added back in the institution's Tier 2 capital.

103. The amount of the fair value gains on revaluation of each of paragraphs 101(i) to (iii) above, which may be included in Tier 2 capital, shall not exceed 45% of each of such fair value gains (i.e. applying a haircut of 55% to each of such gains).

104. The institution must not, in calculating its Tier 2 capital, set-off losses in respect of the institution's own use land and buildings where such losses are recognized in the institution's profit or loss against unrealized gains that are reflected directly in the institution's equity through the statement of changes in equity.

105. The institution must deduct from its CET1 capital any cumulative losses of the institution arising from the institution's holdings of land and buildings below the depreciated cost value (whether or not any such land and buildings are held for the institution's own-use or for investment purposes). Such amount, if any, is to be reported in item (f)(xiv) above.

106. For the purposes of item (l), reserves attributable to fair value gains on revaluation of the institution's holdings of land and buildings. Whether the amount should be net or gross of deferred tax liability should be based on the prevailing accounting standards applicable within a given jurisdiction.

(m), (n) & (o) Regulatory reserve for general banking risks and collective provisions[15] [16]

107. For an institution which uses only the STC approach or BSC approach to calculate its credit risk for non-securitization exposures, the institution must–

(i) report its regulatory reserve for general banking risks in item (m) and collective provisions in item (n); and

(ii) report the total of items (m) and (n) in item (o) up to an amount not exceeding 1.25% of the institution's aggregate risk-weighted amount for credit risk calculated by using the STC approach or BSC approach and by using any of the SEC-ERBA, SEC-SA and SEC-FBA. However, the risk-weighted amounts of exposures to CCPs and CVA, if any, are excluded.

108. For an institution which uses only the IRB approach, or a combination of the STC approach and IRB approach, to calculate its credit risk for non-securitization exposures, the institution must–

[15] According to sections 29, 30 and 31 of the BCR, the institution is allowed to deduct from its total risk-weighted amount the portion of its total regulatory reserve for general banking risks and collective provisions apportioned to the STC approach, BSC approach, SEC-ERBA, SEC-SA or SEC-FBA which is not included in Tier 2 capital. Such deductible amount should be reported in item 2.12(i) of Division A of Form MA(BS)3(I).

[16] Please refer to the HKMA's Regulatory Treatment of Expected Loss Provisions under Hong Kong Financial Reporting Standard 9 in Annex II-C.

(i) apportion its regulatory reserve for general banking risks and collective provisions between the STC approach, IRB approach, SEC-IRBA, SEC-ERBA, SEC-SA and SEC-FBA in accordance with section 42(2)(a) or (b) of the BCR, as the case may be. However, the risk-weighted amounts of exposures to CCPs and CVA, if any, are excluded for the operation of paragraph 108; and

(ii) after it has carried out the apportionment referred to in sub-paragraph (i) above –

(a) report its regulatory reserve for general banking risks apportioned to the STC approach, SEC-ERBA, SEC-SA and SEC-FBA (relevant approaches) in item (m) and its collective provisions apportioned to the relevant approaches in item (n);

(b) report the total of items (m) and (n) in item (o) up to an amount not exceeding 1.25% of its aggregate risk-weighted amount for credit risk calculated by using the relevant approaches; and

(c) comply with the instructions in paragraphs 109 and 110 below in respect of that portion of its regulatory reserve for general banking risks and collective provisions apportioned to the IRB approach and SEC-IRBA.

(p) <u>Surplus provisions (for exposures calculated by using IRB approach)</u>

109. For the institution that adopts the IRB approach for credit risk, if its total EL amount is less than its total eligible provisions, the institution may include the amount of the excess of the total eligible provisions over the total EL amount (i.e. the surplus provisions) in its Tier 2 capital up to 0.6% of its risk-weighted amount for <u>credit</u> risk calculated by using the IRB approach (that is to say, the credit RWA should exclude risk-weighted amounts for exposures to CCPs and CVA, if any). The amount to be reported in item (p) of Part II should be consistent with the figure reported in item 9 of Division F of Form MA(BS)3(IIIc).

(q) <u>Regulatory reserve for general banking risks and collective</u>

provisions[17] apportioned to SEC-IRBA

110. An institution falling within paragraph 108 above must report in item (q) that portion of its total regulatory reserve for general banking risks and collective provisions that is apportioned to the SEC-IRBA. The amount reported must not exceed 0.6% of its risk-weighted amount for credit risk calculated by using the SEC-IRBA.

Tier 2 Capital Before Deductions (F)

111. This is the sum of items (j), (k), (l), (o), (p) and (q) in Column 2.

Regulatory deductions from Tier 2 Capital

112. The institution must deduct from its Tier 2 capital in accordance with the provisions set out in Part 3 of the BCR.

With respect to the regulatory deduction of an institution's LAC investments in capital instruments issued by and non-capital LAC liabilities of financial sector entities and capital investments in commercial entities, **Annex II-B** provides an illustration showing the relevant components of different types of LAC investments and loans, facilities or credit exposures that are required to be deducted from CET1 capital, Additional Tier 1 capital and Tier 2 capital under the BCR.

(r)(i) Investments in own Tier 2 capital instruments

113. Report the amount of any direct, indirect and synthetic holdings by the institution of its own Tier 2 capital instruments, unless already derecognized under applicable accounting standards, calculated in accordance with the requirements specified in Schedule 4E of the BCR. For this purpose, the institution must:

(i) exclude holdings of capital instruments issued by financial sector entities that are not included within regulatory capital in the relevant financial sectors in which those entities operate; and

(ii) include in the amount to be deducted under item (r)(i)

[17] Please refer to the HKMA's Regulatory Treatment of Expected Loss Provisions under Hong Kong Financial Reporting Standard 9 in Annex II-C.

potential future holdings that the institution could be contractually obliged to purchase. In this connection, the HKMA will generally follow the applicable accounting treatment. In case there are areas where the regulatory treatment is different from the accounting treatment, the HKMA will consider each scenario on a case by case basis. The general principle is that if a transaction is subject to conditions precedent which will lead to the institution holding a capital position upon completion of the transaction where the fulfilment of any of the outstanding conditions is beyond the control of the institution, it may treat the uncompleted transaction as not constituting a potential future holding.

(r)(ii) <u>Reciprocal cross holdings in Tier 2 capital instruments issued by and non-capital LAC liabilities of financial sector entities</u>

114. Report the amount of any direct, indirect and synthetic holdings by the institution of Tier 2 capital instruments issued by and non-capital LAC liabilities of financial sector entity where that entity has a reciprocal cross holding with the institution. For this purpose, the institution must:

(i) exclude holdings of capital instruments issued by financial sector entities that are not included within regulatory capital in the relevant financial sectors in which those entities operate; and

(ii) include in the amount to be deducted under item (r)(ii) potential future holdings that the institution could be contractually obliged to purchase. In this connection, the HKMA will generally follow the applicable accounting treatment. In case there are areas where the regulatory treatment is different from the accounting treatment, the HKMA will consider each scenario on a case by case basis. The general principle is that if a transaction is subject to conditions precedent which will lead to the institution holding a capital position upon completion of the transaction where the fulfilment of any of the outstanding conditions is beyond the control of the institution, it may treat the uncompleted transaction as not constituting a potential future holding.

(r)(iii) <u>Insignificant LAC investments in Tier 2 capital instruments issued by and non-capital LAC liabilities of financial sector entities that are not subject to consolidation under a section 3C requirement and not covered by either the 5% or the 10% threshold</u>

115. Subject to paragraph 116 below, report the applicable

amount of the institution's direct, indirect and synthetic holdings of Tier 2 capital instruments issued by and non-capital LAC liabilities of financial sector entities, calculated in accordance with Schedule 4F of the BCR, if – (a) the entities are not the subject of consolidation under a section 3C requirement imposed on the institution (or not within the same banking group as the institution in the case of holdings of non-capital LAC liabilities); (b) the holdings are insignificant LAC investments; and (c) the holdings do not otherwise fall within items (r)(i) and (r)(ii) above. For this purpose, the institution must:

(i) exclude holdings of capital instruments issued by financial sector entities that are not included within regulatory capital in the relevant financial sectors in which those entities operate; and

(ii) include in the amount to be deducted under item (r)(iii) potential future holdings that the institution could be contractually obliged to purchase. In this connection, the HKMA will generally follow the applicable accounting treatment. In case there are areas where the regulatory treatment is different from the accounting treatment, the HKMA will consider each scenario on a case by case basis. The general principle is that if a transaction is subject to conditions precedent which will lead to the institution holding a capital position upon completion of the transaction where the fulfilment of any of the outstanding conditions is beyond the control of the institution, it may treat the uncompleted transaction as not constituting a potential future holding.

116. The applicable amount to be deducted from the institution's Tier 2 capital under paragraph 115 above should be determined by the formula in the first column of the following table:

Applicable amount	**Reference to Schedule 4F of the BCR**
(For deduction of holdings by an institution that is a "section 2 institution" as defined in section 2 of Schedule 4F to the BCR[18])	
[Excess(10% threshold)(net long) * T2 percentage] + Excess(5% threshold)(gross long)	Sections 1, 2, 4

[18] (Viz., a ***resolution entity*** or ***material subsidiary*** but exclude any material subsidiary that has obtained the MA's prior consent to be treated as a "section 3 institution" (within the meaning of section 3 of Schedule 4F)).

<table>
<tr><td colspan="2"><u>(For deduction of holdings by an institution that is a “section 3 institution” (within the meaning of section 3 of Schedule 4F to the BCR) or treated as such by virtue of section 2(2) of Schedule 4F)</u></td></tr>
<tr><td>Excess(10% threshold)(net long) *
T2 percentage +
Excess(5% threshold)(gross long)</td><td><u>Sections 1, 3, 4</u></td></tr>
</table>

<u>Annex II-D</u> is an illustrative example on how to calculate the applicable amount of insignificant and significant LAC investments to be deducted from CET1 capital, Additional Tier 1 capital and Tier 2 capital.

117. The amount of insignificant LAC investments issued by financial sector entities that do not exceed the 10% threshold referred to in paragraph 116 above and therefore not deducted from an institution’s Tier 2 capital, is continue to be risk-weighted in accordance with the applicable risk weight under Part 4, 5, 6 or 8 of the BCR, as the case requires.

(r)(iv) <u>Insignificant LAC investments in non-capital LAC liabilities of financial sector entities previously designated for the 5% threshold but no longer able to meet the conditions set out in section 2(3)(a) of Schedule 4F to BCR</u>

118. Item (r)(iv) is applicable only for a “section 2 institution”. Report the amount of any holdings in the institution’s investments in non-capital LAC liabilities which have previously been designated as gross long deduction position but ceased to be treated as so designated when either or both of the conditions set out in section 2(3)(a) of Schedule 4F to the BCR is or are no longer met in respect of the holdings (i.e. “***Inv(FmDsg NCLAC)***”).

119. For avoidance of doubt, the holdings in the institution’s investments in non-capital LAC liabilities which have been designated under section 2(3)(a) of Schedule 4F to the BCR must not subsequently be included within the 10% threshold under paragraph 116.

(r)(v) <u>Significant LAC investments in Tier 2 capital instruments issued by financial sector entities that are not subject to consolidation under a section 3C requirement</u>

120. Subject to paragraph 121 below, report the amount of the institution’s direct, indirect and synthetic holdings of Tier 2 capital instruments issued by financial sector entities,

calculated in accordance with Schedule 4G of the BCR, if – (a) the entities are not the subject of consolidation under a section 3C requirement imposed on the institution; (b) the holdings are significant LAC investments; and (c) the holdings do not otherwise fall within items (r)(i) and (r)(ii) above. For this purpose, the institution must:

(i) exclude holdings of capital instruments issued by financial sector entities that are not included within regulatory capital in the relevant financial sectors in which those entities operate; and

(ii) include in the amount to be deducted under item (r)(v) potential future holdings that the institution could be contractually obliged to purchase. In this connection, the HKMA will generally follow the applicable accounting treatment. In case there are areas where the regulatory treatment is different from the accounting treatment, the HKMA will consider each scenario on a case by case basis. The general principle is that if a transaction is subject to conditions precedent which will lead to the institution holding a capital position upon completion of the transaction where the fulfilment of any of the outstanding conditions is beyond the control of the institution, it may treat the uncompleted transaction as not constituting a potential future holding.

121. All significant LAC investments in capital instruments issued by financial sector entities that are not in the form of CET1 capital instruments must be fully deducted from an institution's Additional Tier 1 capital and Tier 2 capital, as the case requires, by reference to the tier of capital for which the capital instruments would qualify if they were issued by the institution itself.

Annex II-D is an illustrative example on how to calculate the applicable amount of insignificant and significant LAC investments to be deducted from CET1 capital, Additional Tier 1 capital and Tier 2 capital.

(r)(vi) Significant LAC investments in non-capital LAC liabilities of financial sector entities that are not subject to consolidation under a section 3C requirement

122. Report the amount of the institution's direct, indirect and synthetic holdings of non-capital LAC liabilities of financial sector entities, calculated in accordance with Schedule 4G of the BCR, if – (a) the entities are neither the subject of consolidation under a section 3C requirement imposed on the

institution nor within the same banking group as the institution; (b) the holdings are significant LAC investments; and (c) the holdings do not otherwise fall within item (r)(ii) above.

123. For this purpose, the institution must include in the amount to be deducted under item (r)(vi) potential future holdings that the institution could be contractually obliged to purchase. In this connection, the HKMA will generally follow the applicable accounting treatment. In case there are areas where the regulatory treatment is different from the accounting treatment, the HKMA will consider each scenario on a case by case basis. The general principle is that if a transaction is subject to conditions precedent which will lead to the institution holding a capital position upon completion of the transaction where the fulfilment of any of the outstanding conditions is beyond the control of the institution, it may treat the uncompleted transaction as not constituting a potential future holding.

(r)(vii) <u>Direct holdings of Tier 2 capital instruments issued by financial sector entities that are members of the institution's consolidation group</u>

124. Item (r)(vii) is applicable only for institution who calculates its CAR on a solo/solo-consolidated basis under a section 3C requirement.

125. Report the amount of the institution's direct holdings of Tier 2 capital instruments issued by financial sector entities that are members of the institution's consolidation group. For this purpose, the institution must:

(i) exclude holdings of capital instruments issued by financial sector entities that are not included within regulatory capital in the relevant financial sectors in which those entities operate; and

(ii) include in the amount to be deducted under item (r)(vii) potential future holdings that the institution could be contractually obliged to purchase. In this connection, the HKMA will generally follow the applicable accounting treatment. In case there are areas where the regulatory treatment is different from the accounting treatment, the HKMA will consider each scenario on a case by case basis. The general principle is that if a transaction is subject to conditions precedent which will lead to the institution holding a capital position upon

completion of the transaction where the fulfilment of any of the outstanding conditions is beyond the control of the institution, it may treat the uncompleted transaction as not constituting a potential future holding.

(r)(viii) <u>Regulatory deductions applied to Tier 2 capital to cover the required deductions falling within section 48(1)(g) of BCR</u>

126. For institution that maintains any ***non-capital LAC debt resources***, report the amount by which the total amount of the institution's holdings of non-capital LAC liabilities falling within section 48A of the BCR exceeds the institution's non-capital LAC debt resources. Those holdings of non-capital LAC liabilities that are not deducted from the institution's Tier 2 capital is to continue to be risk-weighted in accordance with the applicable risk-weights under Part 4, 5, 6 or 8, as the case requires.

127. For institution that does not maintain any non-capital LAC debt resources, report the total amount of the institution's holdings of non-capital LAC debt liabilities falling within section 48A of the BCR.

<u>Tier 2 Capital After Deductions **(G)**</u>

128. This is the sum of items (j), (k), (l), (o) (p) and (q) in Column 2 after making the deductions specifically required from Tier 2 capital (i.e. items (r)(i) to (r)(viii)).

129. If the institution's Tier 2 capital before deductions **(F)** is less than the sum of deduction items (r)(i) to (r)(viii), then:

- report "0" in Tier 2 capital after deductions **(G)**; and

- report the sum of items (r)(i) to (r)(viii) minus Tier 2 capital before deductions **(F)** in item (i)(vi).

130. This is also the figure to be reported in item 1.2 of Division A of Form MA(BS)3(I).

Capital Base <u>Capital Base **(H)**</u>

131. This is the aggregate of Tier 1 capital after deductions **(E)** and Tier 2 capital after deductions **(G)**.

132. This is also the figure to be reported in item 1.3 of Division A of Form MA(BS)3(I).

Hong Kong Monetary Authority
June 2019

Annex II-A

Illustrative example to calculate the applicable amount of minority interests / Additional Tier 1 and Tier 2 capital instruments issued by consolidated bank subsidiaries and held by third parties to be recognized in CET1 capital, Additional Tier 1 capital and Tier 2 capital of an authorized institution

Suppose a bank subsidiary (Bank S) issued ordinary shares, Additional Tier 1 and Tier 2 capital instruments of $90, $40 and $20 respectively, and third parties own 30% of the ordinary share, 50% of additional Tier 1 capital instruments and 75% of Tier 2 capital instruments. If Bank S has $1,000 of total risk-weighted assets, its minimum CET1, Tier 1 and total capital requirements are assumed to be $70, $85 and $105 (i.e. corresponding to a 7% CET1 capital ratio, 8.5% Tier 1 capital ratio and a 10.5% Total capital ratio)[1] respectively. Therefore, the applicable amount of minority interests is calculated as follows:

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
	Capital issued by Bank S (gross of regulatory deductions)	**Capital owned by third parties**	**Amount of minority interests** *= ((a) * (b))*	**Minimum capital ratio**	**Minimum capital requirement** *= (RWA * (d))*	**Surplus capital of subsidiary (net of deductions, if any)** *= ((a) – (e))*	**Surplus capital of subsidiary attributable to third parties** *=((f) * (b))*	**Minority interests recognized** *= ((c) – (g))*
CET1	$90	30%	$27	7%	$70	$20	$6	**$21**
AT1	$40	50%	$20					**$9.8**
Tier 1	**$130**	**36%**	**$47**	**8.5%**	**$85**	**$45**	**$16.2**	**$30.8**
Tier 2	$20	75%	$15					**$12.7**
Total capital	**$150**	**41%**	**$62**	**10.5%**	**$105**	**$45**	**$18.5**	**$43.5**
		C	**A**			**B**		

[1] The three percentage figures here are for illustrative purposes only. The exact figures to be used in reality will depend on whether Bank S is locally incorporated in Hong Kong or outside Hong Kong according to Schedule 4D of the BCR.

In this example, by using the formula **[A – (B * C)]** as stipulated in paragraph 15 of the completion instructions, the amount of minority interest that can be recognized in the institution's consolidated CET1 capital is $21 (i.e. $27 – ($20 * 30%)).

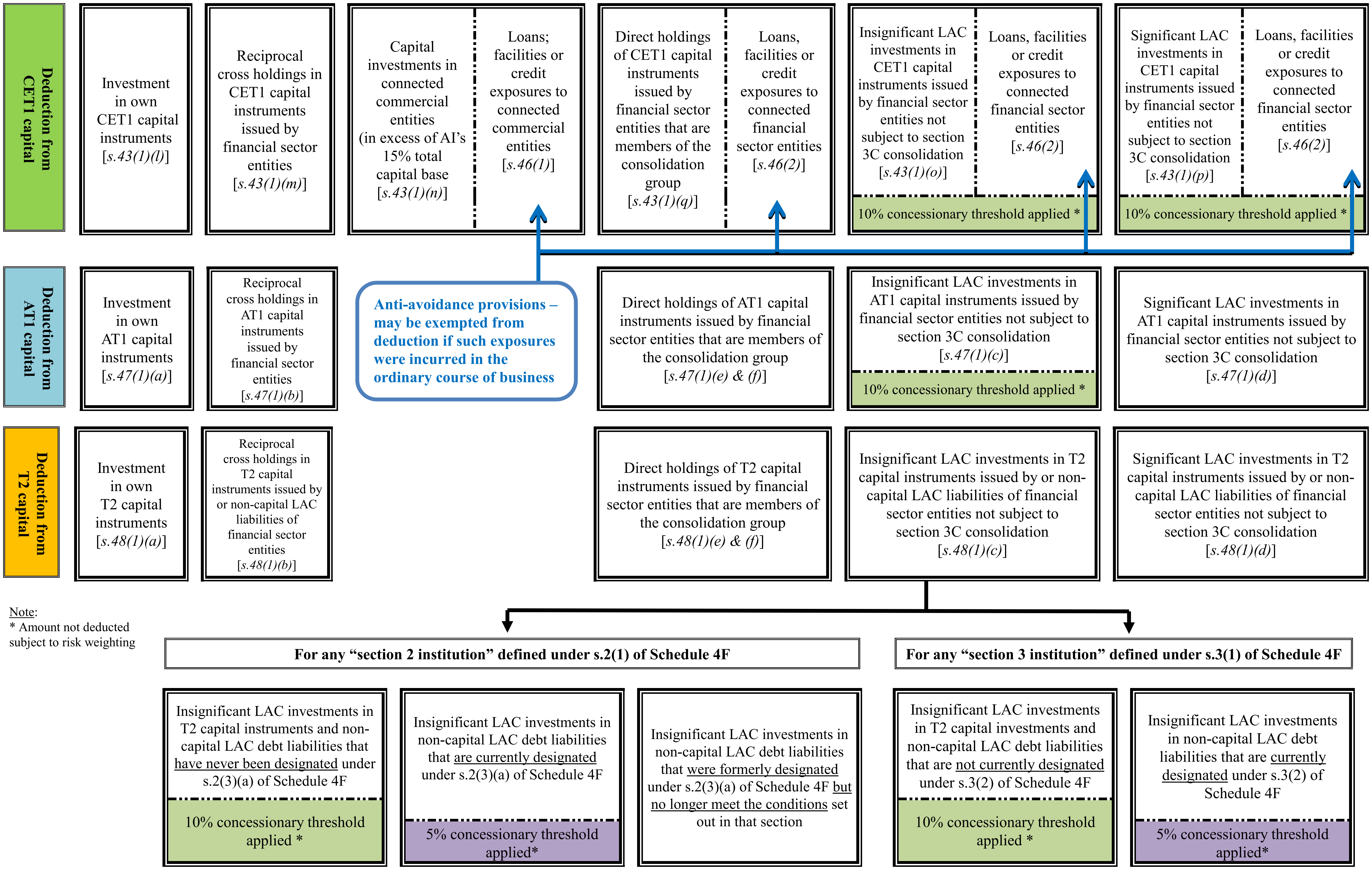
Similarly, following the same formula above, the amount of Tier 1 capital instruments (including both CET1 and AT1 capital instruments) held by third parties that can be recognized in the institution's consolidated Tier 1 capital equals to $30.8 (i.e. $47 – ($45 * 36%)). Since $21 has been recognized in the consolidated CET1 capital of the institution, only $9.8 (i.e. $30.8 - $21) of such Tier 1 capital instruments can be included in its consolidated Additional Tier 1 capital.

The calculation of the applicable amount of Tier 2 capital instruments held by third parties to be included in an institution's Tier 2 follows the same methodology as shown above.

Deduction of investments in capital and non-capital LAC liabilities and loans, facilities or credit exposures from capital base

Solo/solo-consolidated only

Annex II-B



Note:
* Amount not deducted subject to risk weighting

Regulatory Treatment of Expected Loss Provisions under Hong Kong Financial Reporting Standard 9 (HKFRS 9)

Basel Committee on Banking Supervision (BCBS) interim standard

1. The BCBS regulatory capital standard requires banks to categorize accounting provisions made into general provisions (GP) and specific provisions (SP) for the purpose of capital treatment. Authorized institutions (AIs) using the standardised approach and basic approach for credit risk can include GP as Tier 2 capital up to 1.25% of credit RWAs while SP are netted off from risk-weighted exposures. For AIs using the IRB approach, the total eligible provisions (EP) (which include all accounting provisions) are compared with the regulatory measure of expected loss (EL) calculated based on predetermined parameters. Any shortfall of EP vis-a-vis EL is deducted from CET1 capital, and any excess of EP over EL is counted as Tier 2 capital up to 0.6% of credit RWAs.

2. As an interim measure for capital adequacy purposes pending the design and development of a longer-term solution, the BCBS issued on 29 March 2017 an interim standard on the regulatory treatment of accounting provisions[2], under which the current requirement to categorise banks' provisions into GP and SP and their respective treatment for regulatory capital calculation (as mentioned in paragraph 1 above) will remain unchanged when the "expected loss" provisioning model under International Financial Reporting Standard 9 (IFRS 9) comes into effect from 1 January 2018.

Capital treatment of expected loss provisions under the Banking (Capital) Rules (BCR)

3. To align with the expected loss provisions under the new HKFRS 9 (IFRS 9 equivalent), existing definitions for "collective provisions" (i.e. essentially GP) and "specific provisions" set out in section 2(1) of the BCR have been updated. The HKFRS 9 categories financial assets into three stages in terms of credit impairment. For capital calculation, impairment provisions pertaining to exposures classified under the first two stages (i.e. Stage 1 and Stage 2) will be treated as GP, and those pertaining to exposures classified under Stage 3 as SP. With respect to provisions made for purchased or originated credit-impaired financial assets under which any changes in lifetime expected credit losses will be recognized in profit or loss account as an impairment gain or loss, the HKMA regards that such provisions to be similar in nature to SP and hence will be treated as such for capital adequacy purposes.

Determination of Regulatory Reserve (RR) under HKFRS 9

4. The following two-step approach should be adopted for determining whether any RR is required to be maintained by an AI on top of the provisions made by it under the new

---

[2] http://www.bis.org/bcbs/publ/d401.pdf Following the issuance of the interim standard, the BCBS continues to work on the development of a final standard to reflect expected loss provisioning within the regulatory capital framework.

accounting standard (please refer to the HKMA's consultation paper "Regulatory Treatment of Provisions under HKFRS 9" (CP 17.02)[3] for details):

(a) **Step 1** – calculating a benchmark regulatory provision for unidentified expected loss (benchmark) for each AI as the product of (i) a predetermined institution-specific "target rate" of the AI and (ii) the AI's total loans and advances (to non-banks);

(b) **Step 2** – comparing the benchmark with the relevant portion of HKFRS 9 provisions made for the AI's total loans and advances to non-banks categorised into Stage 1 and Stage 2 under HKFRS 9 which, by definition, are not credit-impaired (i.e. they are provisions for unidentified expected loss); and

   (i) where the benchmark is greater than the relevant portion of HKFRS 9 provisions, the "shortfall" will continue to be earmarked from retained earnings and maintained as RR;

   (ii) where, on the other hand, the benchmark is equal to or smaller than relevant portion of HKFRS 9 provisions so that there is no "shortfall" or an "excess" of accounting provisions, no RR will be required.

[3] The consultation paper is available at http://www.hkma.gov.hk/media/eng/doc/key-functions/banking-stability/basel-3/CP_17_02_HKFRS9.pdf

Illustrative example to calculate the applicable amount of investments in capital instruments issued by and non-capital LAC debt liabilities of financial sector entities to be deducted from CET1 capital, Additional Tier 1 capital and Tier 2 capital

Suppose Bank A (a "section 2 institution" under section 2(1) of Schedule 4F to the BCR) holds the following capital instruments issued by and non-capital LAC liabilities of financial sector entities that fall within Schedule 4F and 4G and suppose further that Bank A has CET1 capital, Additional Tier 1 (AT1) capital and Tier 2 (T2) capital of $7,000, $2,000 and $1,500 respectively as at reporting date.

<table>
<tr><th>Investments</th><th>CET1 capital instruments</th><th>AT1 capital instruments</th><th>T2 capital instruments</th><th colspan="3">Non-capital LAC liabilities (NCLAC)</th><th>Total</th></tr>
<tr><td rowspan="2">Insignificant LAC investments</td><td rowspan="2">$650
(a)</td><td rowspan="2">$400
(b)</td><td rowspan="2">$300
(c)</td><td>Never designated under s.2(3)(a) of Schedule 4F
"Inv(NvDsg NCLAC")"</td><td>Currently designated under s. 2(3)(a) of Schedule 4F
"Inv(CurDsg NCLAC)"</td><td>Formerly designated under s.2(3)(a) of Schedule 4F
"Inv(FmDsg NCLAC)"</td><td rowspan="2">$2,050</td></tr>
<tr><td>$200
(d)</td><td>$350
(e)</td><td>$150</td></tr>
<tr><td>Significant LAC investments</td><td>$1,200</td><td>$800</td><td>$600</td><td colspan="3">$250</td><td>$2,850</td></tr>
</table>

Part I (insignificant LAC investments)

The applicable amount of insignificant LAC investments to be deducted from the institution's capital base (i.e. "***Excess(10% threshold)(net long)***", "***Excess(5% threshold)(gross long)***" and "***Inv(FmDsg NCLAC)***") should be determined according to sections 1, 2 and 4 of Schedule 4F to the BCR.[4] Such amounts should be derived based on the following illustration.

[4] For a "section 3 institution" under section 3(1) of Schedule 4F to the BCR, such applicable amount should be determined according to sections 1, 3 and 4 of the same Schedule.

<table>
<tr><th>Steps</th><th colspan="3">Calculations</th></tr>
<tr><td rowspan="2">1. Determine the 10% and 5% concessionary threshold assuming the amount of regulatory deductions to be $1,000</td><td colspan="2">CET1 capital before deductions
- *Less: deductions*
CET1 capital after deductions[5]</td><td>$7,000
($1,000)
$6,000</td></tr>
<tr><td>5% concessionary threshold:
= $6,000 * 5%
= $300 (f)</td><td colspan="2">10% concessionary threshold:
= $6,000 * 10%
= $600 (g)</td></tr>
<tr><td>2. Determine the amount of investments in NCLAC that are currently designated under section 2(3)(a) of Schedule 4F but are in excess of the 5% threshold (i.e. “***Excess(5% threshold)(gross long)***”)</td><td>= ((e) – (f))
= $350 - $300
= $50</td><td colspan="2">Not applicable</td></tr>
<tr><td>3. Determine the total amount of investments in capital instruments and NCLAC on a net long basis that will be covered by or exceed the 10% threshold</td><td>Not applicable</td><td colspan="2">= (a) + (b) + (c) + (d)
= $650 + $400 + $300 + $200
= $1,550 (h)</td></tr>
<tr><td>4. Determine the amount of investments in capital instruments and NCLAC that are in excess of the 10% threshold (i.e. “***Excess(10% threshold)(net long)***”</td><td>Not applicable</td><td colspan="2">= ((h) – (g))
= $1,550 - $600
= $950</td></tr>
<tr><td>4a. Apportion the amount of investments in CET1 capital instruments to be deducted from CET1 capital</td><td>Not applicable</td><td colspan="2">= $950* ($650 / $1,550)
= $398</td></tr>
<tr><td>4b. Apportion the amount of investments in AT1 capital instruments to be deducted from AT1 capital</td><td>Not applicable</td><td colspan="2">= $950 * ($400 / $1,550)
= $245</td></tr>
</table>

5 The CET1 capital after deductions for the calculation of the 10% and 5% threshold must take into account any deduction applied to CET1 capital due to insufficient AT1 capital and T2 capital, if any.

4c. Apportion the amount of (i) investments in T2 capital instruments and (ii) investments in NCLAC that are neither currently designated under section 2(3)(a) of Schedule 4F nor were formerly designated (i.e. ***"Inv(NvDsg NCLAC")"*** to be deducted from T2 capital	Not applicable	= \$950 * ((\$300 + \$200) / \$1,550) = \$307

Consequently, Bank A's holding of insignificant LAC investments in excess of 10% concessionary threshold is **\$950**, being \$1,550 minus \$600. The pro-rata calculation of respective amounts subject to (i) deduction from each tier of capital, and (ii) risk-weighting in accordance with the applicable risk-weights under Part 4, 5, 6 or 8 of the BCR, as the case requires, will be as follows –

Table 1

	(A)		
	Amount subject to deduction	**Amount subject to risk-weighting**	**Total**
from CET1	= \$950 * (\$650/\$1,550) = **\$398**	= \$600 * (\$650/\$1,550) = **\$252**	**\$650**
from AT1	= \$950 * (\$400/\$1,550) = **\$245**	= \$600 * (\$400/\$1,550) = **\$155**	**\$400**
from T2	= \$950 * ((\$300 + \$200)/\$1,550) = **\$307**	= \$600 * ((\$300 + \$200)/\$1,550) = **\$193**	**\$500**
	\$950	**\$600**	**\$1,550**

Hence, the balance of CET1 capital, AT1 capital and T2 capital of Bank A after the deduction of insignificant LAC investments in Part I will be –

Table 2

	CET1 capital	AT1 capital	T2 capital
Capital balance before regulatory deductions	**7,000**	**2,000**	**1,500**
Less: deductions	*(1,000)*	*0*	*0*
Less: "***Excess(5% threshold)(gross long)***"	*0*	*0*	*(50)*
Less: "***Excess(10% threshold)(net long)***"[6]	*(398)*	*(245)*	*(307)*
Less: "***Inv(FmDsg) NCLAC***" *to be deducted in full*	*0*	*0*	*(150)*
Balance brought forward to Part II	**5,602**	**1,755**	**993**

Part II (significant LAC investments)

According to sections 1(2), (3) and (3A) of Schedule 4G to the BCR, with respect to significant LAC investments, the concessionary threshold only applies to the institution's capital investments in the form of CET1 capital instruments. Any holdings of AT1 capital instruments and T2

[6] See column (A) of Table 1.

capital instruments issued by and non-capital LAC liabilities of financial sector entities must be fully deducted from the institution's AT1 capital or T2 capital.

Table 3

	CET1 capital	AT1 capital	T2 capital	Remarks
Balance brought down from Part I	**5,602**	**1,755**	**993**	See last row of Table 2 on page 9
Less: full deduction of significant LAC investments in Tier 2 capital instruments and NCLAC			*(850)*	The sum of significant LAC investments in $600 Tier 2 capital instruments and $250 NCLAC
Less: full deduction of significant LAC investments in AT1 capital instruments		*(800)*		
Less: significant LAC investments in CET1capital instruments subject to deduction	*(640)*			The 10% concessionary threshold for significant LAC investments in CET1 capital instruments is $560, being ($5,602 * 10%). Therefore, (i) amount of significant LAC investments in CET1 capital instruments exceeding 10% concessionary threshold and subject to deduction is ($1,200 – $560) = $640 (ii) amount of significant LAC investments in CET1 capital instruments subject to 250% risk-weight is $560.
Capital after deduction of significant LAC investments	**4,962**	**955**	**143**	

Annex II-E

Basel III Transitional Arrangements

Treatment of capital instruments that no longer qualify for inclusion in capital base (non-complying capital instruments)

The following phase-out treatment will apply to non-complying capital instruments.

1. Non-common equity Tier 1 and Tier 2 capital instruments that do not qualify as Additional Tier 1 capital (i.e. failed to meet the qualifying criteria specified in Schedule 4B of the BCR) or Tier 2 capital (i.e. failed to meet the qualifying criteria specified in Schedule 4C of the BCR) but were included in an Authorized Institution's (AIs) capital base before 1 January 2013 (collectively referred to "extant capital instruments") may be phased out during the 10-year period beginning from 1 January 2013. Fixing the base at the nominal amount of such instruments outstanding immediately before 1 January 2013, their recognition will be capped at 90% from 1 January 2013, with the cap reducing by 10 percentage points in each subsequent year[7]. For example, an AI that issued a Tier 1 extant capital instrument in August 2010 will be able to count 90 percent of the notional outstanding amount of the instrument as of 1 January 2013 during calendar year 2013, 80 percent during calendar year 2014, and so on. As of 1 January 2022, no Tier 1 extant capital instruments will be recognized in Tier 1 capital.

Progressive phasing out of non-complying capital instruments

Commencement date	Percentage of base amount of transitional instruments that may be included in Additional Tier 1 and Tier 2 capital under the phase-out arrangement
1 January 2013	90%
1 January 2014	80%
1 January 2015	70%
1 January 2016	60%
1 January 2017	50%
1 January 2018	40%
1 January 2019	30%
1 January 2020	20%
1 January 2021	10%
1 January 2022	0%

2. This progressively reducing cap will be applied to Additional Tier 1 capital and Tier 2 capital separately based on the aggregate amount of extant capital instruments

[7] The level of the base is fixed on 1 January 2013 and does not change thereafter.

outstanding in each tier[8]. To the extent that an instrument is redeemed, or its recognition in capital is amortized, after 1 January 2013, the nominal amount serving as the base is not reduced. In addition, instruments may only be included under a particular cap to the extent that they are recognized in that tier of capital. That is to say, any amount of instruments issued in excess of the limits allowed for recognition prior to 1 January 2013 (e.g. supplementary capital limited to the institution's core capital; and term debt capital limited to 50% core capital) will not be eligible for the gradual phasing-out treatment (i.e. any such excess amount should be excluded from the calculation of the base amount). Nevertheless, such instruments will be allowed to be fully recognized (i.e. without limitation) on and after 1 January 2013 if they meet all the qualifying criteria specified in Schedule 4B for inclusion in Additional Tier 1 capital or Schedule 4C for inclusion in Tier 2 capital of the BCR, as the case may be, and with the approval of the HKMA.

3. Where an instrument's recognition in capital is subject to amortization on or before 1 January 2013, only the amortized amount recognized in capital on 1 January 2013 should be taken into account in the amount fixed for transitioning rather than the full nominal amount. The instrument will continue to amortize on a straight-line basis at a rate of 20% per annum during the transition period, while the aggregate cap will be reduced at a rate of 10% per year.

4. Share premium may be included in the base provided that it relates to an instrument that is eligible to be included in the base for the transitional arrangements.

5. Non-qualifying instruments that are denominated in a foreign currency should be included in the base using their value in the reporting currency of the institution as at January 1, 2013. The base will be fixed in the reporting currency of the institution throughout the transition period. During the transition period, instruments denominated in a foreign currency should be valued as they are reported on the balance sheet of the institution at the relevant reporting date (adjusting for any amortization in the case of Tier 2 instruments).

6. Where an instrument is fully derecognized on 1 January 2013 or otherwise ineligible for these transitioning arrangements, the instrument must not be included in the base fixed on 1 January 2013.

Non-complying capital instruments eligible for phase-out treatment

7. The following rules will be applied to determine the extent to which non-complying capital instruments (issued by AI directly or through a subsidiary) are eligible for the phase-out treatment -

   (a) Capital instruments issued prior to 12 September 2010 that previously qualified as regulatory capital but do not meet the Basel III qualifying criteria for regulatory capital (on a forward looking basis) will be considered non-complying capital instruments and subject to phase-out as described in this Annex.

---

[8] Where an instrument is derecognized at 1 January 2013, it will not be eligible for grandfathering and does not count towards the base fixed on 1 January 2013.

(b) Capital instruments issued before 1 January 1 2013 that meet the Basel III qualifying criteria for regulatory capital, except that they do not meet the "non-viability requirements"[9], will be considered non-complying capital instruments and subject to the phase-out described in this Annex.

(c) Capital instruments issued between 12 September 2010 and 1 January 2013 that do not meet one or more of the Basel III qualifying criteria for inclusion in regulatory capital (other than the non-viability requirements) will be excluded from regulatory capital as of 1 January 2013 (i.e. they will not be subject to the phase-out described in this Annex).

(d) Capital instruments issued after 1 January 2013 must meet all of the Basel III criteria for regulatory capital (including the non-viability requirements) to qualify as regulatory capital. Instruments that do not meet all of these requirements will be excluded from regulatory capital for the purpose of determination of capital base.

8. Instruments with an incentive to redeem will be treated as follows:

Characteristics of capital instruments	Phase-out	Derecognize	Recognize
1. Call and step-up date prior to 1 January 2013, is not called and meets the new criteria			√
2. Call and step-up date on or after 1 January 2013, is not called and meets new criteria	√ Starting 1 January 2013 until effective maturity date		√ From effective maturity date onwards
3. Call and step-up date between 12 September 2010 and 1 January 2013, is not called and does not meet new criteria		√ On 1 January 2013	

[9] Minimum requirements to ensure loss absorbency at the point of non-viability, Annex 1 of BCBS Press Release *Basel Committee issues final elements of the reforms to raise the quality of regulatory capital*, 13 January 2011.

Characteristics of capital instruments	Phase-out	Derecognize	Recognize
4. Call and step-up date on or after 1 January 2013, is not called and does not meet new criteria	√ Starting 1 January 2013 until effective maturity date	√ On effective maturity date	
5. Call and step-up date on or prior to 12 September 2010, was not called and does not meet new criteria	√ Starting 1 January 2013		

(a) For an instrument that has a call and a step-up (or other incentive to redeem) prior to 1 January 2013, if the instrument is not called at its effective maturity date[10] and on a forward-looking basis (i.e. from the effective maturity date) will meet the new criteria for inclusion in Additional Tier 1 capital or Tier 2 capital, it will continue to be recognized in that tier of capital.

(b) For an instrument that has a call and a step-up (or other incentive to redeem) on or after 1 January 2013, if the instrument is not called and its effective maturity date and on a forward looking basis will meet the new criteria for inclusion in Additional Tier 1 capital or Tier 2 capital, it will continue to be recognized in that tier of capital. Prior to the effective maturity date, the instrument will be considered an "instrument that no longer qualifies as AT1 or Tier 2" and will therefore be phased out from 1 January 2013.

(c) For an instrument that has a call and a step-up (or other incentive to redeem) between 12 September 2010 and 1 January 2013, if the instrument is not called at its effective maturity date and on a forward-looking basis (i.e. from the effective maturity date) will not meet the new criteria for inclusion in Additional Tier 1 capital or Tier 2 capital, it will be fully derecognized in that tier of capital from 1 January 2013.

(d) For an instrument that has a call and a step-up (or other incentive to redeem) on or after 1 January 2013, if the instrument is not called at its effective maturity date and on a forward-looking basis (i.e. from the effective maturity date) will not meet the new criteria for inclusion in Additional Tier 1 capital or Tier 2 capital, it will be fully derecognized in that tier of capital from the effective maturity date. Prior to the effective maturity date, the instrument will be considered an "instrument that no longer qualifies as AT1 or Tier 2" and will therefore be phased out from 1 January 2013.

[10] Effective maturity date refers to the incentive to redeem date. Instruments without an incentive to redeem would not have an effective maturity date other than their scheduled maturity (if any).

(e) For an instrument that has a call and a step-up (or other incentive to redeem) on or prior to 12 September 2010, if the instrument was not called at its effective maturity date and on a forward-looking basis (i.e. from the effective maturity date) does not meet the new criteria for inclusion in Additional Tier 1 capital or Tier 2 capital, it will be considered an "instrument that no longer qualifies as AT1 or Tier 2" and will therefore be phased out from 1 January 2013.

Illustrative example –
Recognition of non-qualifying capital instruments during the transitional period

Subject to Schedule 4H of the BCR, the extant capital instruments of an authorized institution that were included in the institution's capital base immediately before 1 January 2013 but do not meet all the qualifying criteria set out in Schedule 4B and 4C of the BCR, as the case may be, must be phased out during the 10-year period.

Assume Bank A has three outstanding non-qualifying Tier 2 debt instruments as at 1 January 2013 which are eligible for phase-out:

(a) **10-year Term Debt**: Notional amount of $1,000 to be matured on 1 January 2019;

(b) **10-year Term Debt**: Notional amount of $500 with a call option on 1 January 2015 (assume that it will be derecognized after 1 January 2015)

(c) **Perpetual Debt**: Notional amount of $500

Based on the above information, the amount of non-qualifying capital instruments that may be recognized in Tier 2 capital of Bank A from 1 January 2013 to 31 December 2022 has been worked out in the following table. Authorized institutions are suggested to follow the below 4 steps in deriving the eligible amount that can be included as part of its capital base each year during the phase-out period.

Step 1: Consider the maturity profile of each non-compliant instrument, including the 5-year amortization

Step 2: Calculate the total amount of all non-compliant capital instruments **[A]**

Step 3: Calculate the capped amount (subject to 10% phase-out) by fixing the base on 1 January 2013 **[B]**

Step 4: The lower of either [A] or [B] is the amount that could be recognized as Tier 2 capital **[Min (A,B)]**

Reporting Date	Step 1			Step 2	Step 3	Step 4
	Debt (a)	Debt (b)	Debt (c)	Total amount of all non-compliant capital instruments [A]	Cap amount at each year# [B]	Amount that may be recognized in Tier 2 capital [Min (A,B)]
1/1/2013	$1,000	$500	$500	$2,000	$1,800	$1,800
1/1/2014	$1,000	$500	$500	$2,000	$1,600	$1,600
1/1/2015	$800*	$0	$500	$1,300	$1,400	$1,300
1/1/2016	$600	$0	$500	$1,100	$1,200	$1,100
1/1/2017	$400	$0	$500	$900	$1,000	$900
1/1/2018	$200	$0	$500	$700	$800	$700
1/1/2019	$0	$0	$500	$500	$600	$500
1/1/2020	$0	$0	$500	$500	$400	$400
1/1/2021	$0	$0	$500	$500	$200	$200
1/1/2022	$0	$0	$500	$500	$0	$0

<u>Note:</u>

* Debt (a) starts in 2015 the 20% straight line amortization in the remaining 5 year before maturity.

\# The extant Tier 2 capital instruments subject to phase-out as at 1.1.2013 are $2,000. Therefore, this cap amount will be reduced by 10 percentage points in each subsequent year.

Completion Instructions

Return of Capital Adequacy Ratio
Part IIIa - Risk-weighted Amount for Credit Risk
Basic Approach
Form MA(BS)3(IIIa)

Introduction

1. Form MA(BS)3(IIIa) of Part III should be completed by each authorized institution (AI) incorporated in Hong Kong using the ***basic approach (BSC approach)*** to calculate ***credit risk*** under Part 5 of the Banking (Capital) Rules (BCR).

2. This Form covers the following exposures of a reporting AI:

   (a) All on-balance sheet exposures and off-balance sheet exposures booked in its ***banking book***, except:

   (i) exposures subject to deduction from the ***CET1 capital, additional tier 1 capital*** and/or ***tier 2 capital*** (which should be reported in Form MA(BS)3(II));

   (ii) ***securitization exposures*** subject to Part 7 of the BCR (which should be reported in Form MA(BS)3(IIId)); and

   (iii) exposures to ***central counterparties*** (CCPs) subject to Division 4 of Part 6A of the BCR (which should be reported in Form MA(BS)3(IIIe)).

   (b) All ***default risk exposures*** to counterparties under ***securities financing transactions*** (SFTs) and ***derivative contracts*** booked in its ***trading book***, except:

   (i) exposures subject to deduction from the CET1 capital, additional tier 1 capital and/or tier 2 capital (which should be reported in Form MA(BS)3(II)); and

   (ii) exposures to CCPs subject to Division 4 of Part 6A of the BCR (which should be reported in Form MA(BS)3(IIIe)).

   (c) All credit exposures to persons in respect of ***unsegregated collateral*** posted by the AI to those persons except:

   (i) exposures subject to deduction from the CET1 capital, additional tier 1 capital and/or tier 2 capital (which should be reported in Form MA(BS)3(II)); and

   (ii) exposures to CCPs subject to Division 4 of Part 6A of the BCR (which should be reported in Form MA(BS)3(IIIe)).

   (d) If applicable, the AI's market risk positions which are (i) exempt from the requirements of Part 8 of the BCR; and (ii) subject to Part 5 of the BCR as required by section 22(4)(c) of the BCR.

3. This Form and these completion instructions should be read in conjunction with the BCR and the relevant supervisory policy/guidance related to the capital adequacy framework.

Section A: Definitions and Clarification

4. In these instructions—

(a) "gross sum of the stated notional amounts" refers to the sum of the stated notional amounts of all relevant contracts, without the stated notional amounts of contracts with positive replacement costs being reduced by the stated notional amounts of contracts with negative or zero replacement costs, regardless of whether the contracts are subject to ***recognized netting***.

(b) "recognized CRM" refers to ***recognized collateral***, recognized netting, ***recognized guarantees*** and ***recognized credit derivative contracts***. To avoid doubt, guarantees issued by other offices of the reporting AI are not regarded as ***recognized credit risk mitigation***. Debt securities which are ***re-securitization exposures*** (whether rated or not) cannot be recognized as collateral (see section 125(2) of the BCR).

(c) "stated notional amount" means the nominal ***notional amount*** of a derivative contract. It should not be confused with any effective notional amount or adjusted notional calculated for the derivative contract under Part 6A of the BCR.

(d) "Tier 1 country" has the meaning given by the Banking Ordinance, that is, Hong Kong and any country or place other than Hong Kong which—

(i) is a member of the Organization for Economic Co-operation and Development (OECD); or

(ii) has concluded special lending arrangements with the International Monetary Fund associated with the International Monetary Fund's General Arrangements to Borrow,

but excludes any such country or place which—

(iii) has rescheduled its external sovereign debt, whether to central government or non-central government creditors, within the previous five years; or

(iv) is specified by the Monetary Authority (MA) by notice published in the Gazette as being a country or place that is not to be regarded as a Tier 1 country for the purposes of this definition.

Currently, OECD members comprise[1]:

Australia	Germany	Mexico	Sweden
Austria	Greece	Netherlands	Switzerland

[1] The list is provided for reference only and may not be up-to-date. AIs must visit the website of the OECD (https://www.oecd.org) regularly to verify whether a sovereign to which the AIs have exposures is an OECD member.

Belgium	Hungary	New Zealand	Turkey
Canada	Iceland	Norway	U.K.
Chile	Ireland	Poland	U.S.A.
Colombia	Israel	Portugal	
Czech Republic	Italy	Slovak Republic	
Denmark	Japan	South Korea	
Estonia	Latvia	Slovenia	
Finland	Luxembourg	Spain	
France	Lithuania		

5. AIs and ***banks*** include their overseas head offices and branches. For example, a placement with a ***Tier 2 country*** incorporated AI or its overseas branch should be classified as an exposure to an AI regardless of the country of incorporation or location of its branch. A placement with a Tier 1 country incorporated bank's branch, regardless of its location, should be classified as an exposure to a bank incorporated in Tier 1 country.

6. Double counting of exposures arising from the same contract or transaction should be avoided. For example, only the undrawn portion of a loan commitment should be reported as an off-balance sheet exposure while the actual amount which has been lent out should be reported as an on-balance sheet exposure. ***Trade-related contingencies***, such as trust receipts and shipping guarantees, which have already been reported as letters of credit issued or loans against import bills etc. should not be counted again as off-balance sheet exposures.

7. In certain cases, ***counterparty default risk*** exposures arising from derivative contracts may already be reflected, in part, on the reporting AI's balance sheet. For example, the AI may have recorded the ***fair value*** of a derivative contract on its balance sheet. To avoid double counting, such amount should be excluded from on-balance sheet exposures and treated as off-balance sheet exposures for the purposes of this Form.

8. Accruals on an exposure should be classified and risk-weighted in the same way as the exposure. Accruals which cannot be so classified should, with the ***prior consent*** of the MA, be included in Class VIII (Other exposures).

9. For **SFTs** booked in the reporting AI's banking book—

   (a) if the assets underlying the SFTs are ***non-securitization exposures***, the AI's credit exposures to the assets underlying the SFTs should be reported in Division A of this Form (see also section 122(2) and (4) of the BCR);

   (b) if the assets underlying the SFTs are securitization exposures, the AI's credit exposures to the assets underlying the SFTs should be risk-weighted in accordance with Part 7 of the BCR and reported in Form MA(BS)3(IIId) (see also section 122(5) of the BCR).

10. For SFTs booked in the reporting AI's trading book, the AI's exposures to the assets underlying the SFTs are market risk exposures. Hence, the AI only needs to calculate

the ***risk-weighted amounts*** (RWAs) of its market risk exposures to the assets in accordance with Part 8 of the BCR (see section 123 of the BCR) and reports the exposures in Form MA(BS)3(IV). The AI is not required to calculate any RWA for the credit risk of the assets. However, if the AI is granted an exemption under section 22 of the BCR, the AI should comply with section 122 instead of section 123 in calculating the RWAs of its exposures to the assets, and report the exposures in this Form instead.

11. An ***originating institution*** of a ***non-eligible securitization transaction*** must report the RWA of the ***underlying exposures*** of the transaction in this Form as if the exposures were not securitized. If the credit risk mitigation (CRM) afforded to the underlying exposures of an ***eligible synthetic securitization transaction*** is not in the form of ***tranched credit protection***, the underlying exposures must be reported in this Form in the same manner as a non-eligible securitization transaction except that the CRM for transferring the credit risk of the underlying exposures to the other parties to the transaction can be taken into account in the RWA calculation and therefore should also be included in the reporting. However, if the CRM is in the form of tranched credit protection, both the underlying exposures and the CRM effect must be reported in Form MA(BS)3(IIId) (please see paragraph 15 (b) of the completion instructions for Form MA(BS)3(IIId)). For cases which are not specified in these instructions or in any other supervisory guidance relevant to ***securitization transactions***, reporting AIs should consult the HKMA on the reporting arrangements.

Section B: Reporting arrangements for Division A of Part IIIa

B.1 Exposure Classification

12. Division A of this Form is organized according to the following standard exposure classes into which on-balance sheet and off-balance sheet exposures should be classified under the BSC approach:

Class I	***Sovereign*** exposures
Class II	***Public sector entity*** exposures
Class III	Multilateral development bank exposures
Class IV	Bank exposures
Class V	***Cash items***
Class VI	***Residential mortgage loans***
Class VII	[Reserved]
Class VIII	Other exposures
Class IX	Exposures subject to 1250% risk-weight

13. The exposure classes are mutually exclusive and therefore each exposure should be reported under only one of them. However, it should be noted that a single transaction may give rise to more than one exposure. For example, a derivative contract booked in the banking book has counterparty default risk and may also have a credit exposure to the asset underlying the derivative contract.

14. Classification of ***credit-linked notes*** (CLN) held

(a) A single-name CLN held by the reporting AI should be reported in Division A under—

(i) the exposure class applicable to the issuer of the CLN if the risk-weight attributable to the CLN is determined as the ***attributed risk-weight*** of the issuer; or

(ii) the exposure class applicable to the ***reference obligation*** of the note if the risk-weight attributable to the CLN is determined as the risk-weight attributable to the reference obligation as if it were held directly by the reporting AI.

(b) A multiple-name CLN (e.g. a first-to-default CLN) should be reported in Division A under the exposure class applicable to the issuer of the CLN if the risk-weight attributable to the CLN is determined as the risk-weight attributable to the issuer, otherwise, the CLN should be reported under Class VIII.

15. Classification of off-balance sheet exposures

Off-balance sheet exposures must be classified into exposure classes in the same manner as on-balance sheet exposures (i.e. based on the source of credit risk). In particular—

(a) in the case of an ***asset sale with recourse*** or ***forward asset purchase***, since the credit risk is arising from the asset that could be repurchased or is to be purchased in the future, the exposure should be classified into the exposure class within which the asset sold/to be purchased (e.g. equities), or the ***obligor*** of such asset (e.g. debt securities), would fall if the asset were held by the reporting AI;

(b) in the case of ***partly paid-up shares and securities***, since the credit risk associated with the shares or securities is in effect passed to the reporting AI, the exposure should be classified into the exposure class within which the relevant shares or securities would fall if they were on-balance sheet exposures of the reporting AI;

(c) in the case of a ***direct credit substitute*** arising from the selling of ***credit protection*** in the form of ***total return swap*** or ***credit default swap*** booked in the reporting AI's banking book, the exposure should be classified into the exposure class within which the relevant reference obligation of the swap would fall if the reference obligation were an on-balance sheet exposure of the reporting AI. If the swap provides credit protection to a basket of reference obligations, the exposure should be classified into Class VIII; and

(d) in the case of default risk exposures, the exposures should be classified into the exposure classes within which the counterparties to the derivative contracts or SFTs concerned fall.

B.2 Specific Instructions for Selected Exposure Classes

16. **Class I Sovereign Exposures**

(a) Deposits placed with, and loans made to, the Government (including those for the account of the Exchange Fund and the clearing balances with the Exchange Fund) should be reported under item *1*.

(b) Market makers who have short positions in Exchange Fund Bills/Notes may report their net holdings of such instruments provided that the short positions are covered by the Sale and Repurchase Agreements with the HKMA. The following steps should be taken in determining the amount to be reported:

(i) the long and short positions of instruments with a residual maturity of less than 1 year may be offset with each other;

(ii) the long and short positions of instruments with a residual maturity of not less than 1 year may be offset with each other;

(iii) if the net positions of both (i) and (ii) above are long, the positions should be reported under items *2* and *3* respectively;

(iv) if the net positions in (i) is long and the net position in (ii) is short, or the other way round, the two positions can be netted with each other on a dollar for dollar basis. The resultant net long position, if any, should be reported under item *2* or *3* as appropriate.

(c) An off-balance sheet exposure to a sovereign may be reported in item *2, 3, 4, 5, 7, 8, 9* or *10* only if it is a credit exposure arising from fixed rate or floating rate debt securities issued or guaranteed by the sovereign, e.g. a forward asset purchase to buy a fixed rate government bond.

17. **Class IV Bank Exposures**

For the purposes of this exposure class, clean[2] export trade bills negotiated under other banks' letters of credit may be reported as exposures to the issuing banks of the letters of credit.

18. **Class V Cash Items**

(a) Items *22* and *23* - Gold bullion

(i) Gold bullion held in safe custody for other entities or customers, which does not expose the reporting AI to any credit risk, is not required to be included in this Form.

(ii) Gold bullion held on an unallocated basis by a third party for the reporting AI backed by gold liabilities should be reported under the exposure class to which the third party belongs instead of under Class V.

[2] This includes cases where discrepancies have been accepted by the issuing bank concerned.

(iii) Gold bullion held not backed by gold liabilities (i.e. all other holdings of gold bullion not falling within subparagraph (ii) and not included in item *22*) should be reported in item *23*.

(b) Item *24* - Cash items in the course of collection

This item refers to the amount of cheques, drafts and other items drawn on other banks that are payable to the account of the reporting AI immediately upon presentation and that are in the process of collection, and includes—

(i) cheques and drafts against which the AI has paid to its customers (i.e. by purchasing or discounting the cheques or drafts presented by the customers) and in respect of which it now seeks payment from the drawee banks;

but excludes—

(ii) import and export trade bills held by the AI that are in the process of collection (they should be reported as exposures to the counterparties concerned and allocated risk-weights applicable to the counterparties);

(iii) unsettled clearing items that are being processed through any interbank clearing system in Hong Kong; and

(iv) receivables arising from transactions in securities (other than ***repo-style transactions***), and transactions in foreign exchange and ***commodities***, that are not yet due for settlement.

(c) Item *25* - Failed settlements

(i) Items *25a* to *25e* capture any transaction in securities (other than repo-style transaction), and any transaction in foreign exchange or commodities, that is entered into on a ***delivery-versus-payment (DvP) basis***[3] where payment / delivery has not yet taken place after the settlement date.

(ii) The following exposures should not be included in item *25*—

(A) If a transaction in securities (other than repo-style transaction), or a transaction in foreign exchange or commodities, is entered into on a non-DvP basis and payment / delivery from the counterparty concerned has not yet taken place up to and including the fourth ***business day*** after the settlement date, the amount of the payment made or the current market value of the thing delivered by the reporting AI, plus any ***positive current exposure*** associated with the transaction, should be treated as an exposure to that counterparty. The amount of the exposure should be reported under the exposure class to which the counterparty belongs and risk-weighted at the risk-weight applicable to that counterparty.

[3] DvP transactions include payment-versus-payment (PvP) transactions.

(B) When payment / delivery under the above non-DvP transaction has not yet taken place for five or more business days after the settlement date, the reporting AI should report the exposure in item *30c* under Class IX.

(d) Item *26* – Exposures collateralized by cash collateral

(i) This item captures exposures collateralized by the following assets (collectively referred to as "cash collateral")—

(A) cash on deposit with the reporting AI; or

(B) certificates of deposit, or comparable instruments, issued by the reporting AI.

(ii) However, when the cash collateral is held at a third-party bank in a non-custodial arrangement and unconditionally and irrevocably pledged or assigned to the reporting AI, the ***credit protection covered portion*** concerned must be reported as an exposure to that third-party bank under Class IV and therefore must not be reported in item *26*.

19. **Class VI Residential Mortgage Loans (RMLs)**

(a) RMLs that satisfy the criteria set out in section 115(1) of the BCR are risk-weighted at 50% and should be reported under item *27a*.

(b) If the reporting AI has opted to risk-weight those RMLs that are secured by a first legal charge on residential properties situated outside Hong Kong according to the regulatory capital rules of the jurisdictions in which the properties are situated, the RMLs should be reported under item *27b* if the risk-weights are other than 50% and 100%. RMLs that are risk-weighted at 50% or 100% according to those jurisdictions' regulatory capital rules should be reported under item *27a* or *27c*, whichever is applicable.

(c) Other RMLs, i.e. those which do not satisfy the criteria set out in section 115(1) and (2) of the BCR, should be risk-weighted at 100% and reported under item *27c*.

(d) See paragraph 25(d) for the reporting arrangement of RMLs guaranteed by Hong Kong Housing Authority or insured by HKMC Insurance Limited.

20. **Class VII Collective Investment Scheme Exposures (CIS exposures)**

This exposure class is reserved for future use. If the reporting AI has any equity investment in a ***collective investment scheme***, the investment must be reported under Class VIII.

21. **Class VIII Other Exposures**

Included in this exposure class are exposures which are subject to credit risk capital requirements and have not been included in Classes I to VI and IX in this Form. Exposures included in this exposure class are subject to a risk-weight of 100%, unless otherwise specified in the BCR or by the MA.

Item no.	Nature of item

29a. Exposures to corporates or individuals not elsewhere reported

This refers to exposures to corporates or individuals which have not been included in other exposure classes and items *29b*, *29c*, *29e* and *29f* below.

29b. Holdings of equity or other forms of capital instruments issued by, and non-capital LAC liabilities of, financial sector entities subject to 100% risk-weight

This item is for reporting holdings falling within section 116(1)(a)(i) and (iii) of the BCR which are subject to 100% risk-weight under section 116(2)(a) of the BCR.

29c. Investments in equity of entities (other than financial sector entities) subject to 100% risk-weight and exposures to collective investment schemes

Included are investments in ***commercial entities*** which are subject to 100% risk-weight (see sections 116 and 117A of the BCR). Exposures to collective investment schemes (other than those falling within section 116(1)(a) of the BCR) should also be reported here.

29d. Premises, plant and equipment, other fixed assets for own use, and other interest in land

Included are—

- investments in premises, plant and equipment and all other fixed assets of the reporting AI which are held for own use;
- a right-of-use asset recognized by the reporting AI as a lessee in accordance with the prevailing accounting standards issued by Hong Kong Institute of Certified Public Accountants where the asset leased is a tangible asset; and
- other interests in land which are neither occupied by the reporting AI nor used in the operation of the AI's business.

29e. Holdings of equity or other forms of capital instruments issued by financial sector entities subject to 250% risk-weight

This item is for reporting holdings falling within section 116(1)(a)(ii) of the BCR which are subject to 250% risk-weight under section 116(2)(b) of the BCR.

29f. Multiple-name credit-linked notes / sold credit protection to basket of exposures

This item refers to—

- multiple-name CLN (e.g. first-to-default CLN) for which the applicable risk-weights are determined according to section 117(a)(ii) of the BCR; and
- sold credit protection to a basket of reference obligations, where the protection is in the form of total return swap or credit default swap booked in the reporting AI's banking book and the risk-weight applicable to the protection is determined according to section 121(3), (4), (5) or (6) of the BCR.

29g. Other exposures not elsewhere reported whose risk-weight is 100%

This item refers to investments or exposures that are risk-weighted at 100% and that are not reported elsewhere (e.g. exposures falling within section 116(1)(b)(ii) of the BCR where the obligors concerned are not corporates and individuals).

29h. Other exposures not elsewhere reported

If necessary, the MA may specify a risk-weight which is greater than 100% for an exposure falling within section 116 of the BCR. Such exposure should be reported in this item.

This item also includes credit protection covered portions of exposures which are—

- secured by recognized collateral for which the applicable risk-weights are determined under Part 7 of the BCR; or
- covered by recognized credit derivative contracts eligible for a risk-weight of 2% or 4% under section 134(7) or 135(6A) of the BCR (The credit protection covered portions should be reported as a separate item from the credit protection covered portions mentioned in the first bullet and other exposures reported in this item). To avoid doubt, if the recognized credit derivative contracts concerned fall within section 226BI(b), 226I(b) or 226MC(b) of the BCR, the default risk exposures in respect of the contracts are regarded as zero for the purposes of Form MA(BS)3(IIIe).

22. **Class IX Exposures subject to 1250% risk-weight**

Report here the following types of exposure which are subject to a risk-weight of 1250%.

Item no.	Nature of item
30a.	First loss portion of credit protection This item refers to the first loss portion mentioned in section 135(2) and (8) of the BCR.
30b.	Significant exposures to commercial entities This item refers to the reporting AI's holdings of shares in commercial entities that exceed the threshold set out in section 117A of the BCR.
30c.	Non-DvP transactions remain unsettled for 5 or more business days This item refers to the amount of payment made or the current market value of the thing delivered by the reporting AI, plus any positive current exposure, in respect of a transaction in securities (other than a repo-style transaction), or a transaction in foreign exchange or commodities, entered into on a basis other than a DvP basis, where the payment or deliverables from the counterparty concerned remains unsettled after the settlement date for 5 or more business days (see also section 114A of the BCR).

B.3 Reporting of On-balance Sheet Exposures – Column A1 in Division A

23. If an on-balance sheet exposure is not covered by any recognized CRM, the whole ***principal amount*** (after deduction of ***specific provisions***) of the exposure should be reported in column A1 of the row for the risk-weight applicable to the exposure.

24. If an on-balance sheet exposure is covered fully or partially by recognized CRM, the exposure should be reported in column A1 in accordance with paragraphs 25 to 26 below.

25. CRM treatment by substitution of risk-weights (applicable to collateral, guarantees and ***credit derivative contracts***)

(a) The whole principal amount (after deduction of specific provisions) of the exposure should be divided into the credit protection covered portion(s) and the ***credit protection uncovered portion***.

(b) Each credit protection covered portion should be reported in column A1 of the row for the exposure class and risk-weight applicable to the credit protection concerned. That is, the credit protection covered portion should be allocated the risk-weight of the collateral, or, in the case of guarantee or credit derivative contract, the attributed risk-weight of the ***credit protection provider*** (or the risk-weight of 2% or 4% in the

case of a credit derivative contract that falls within section 134(7) or 135(6A) of the BCR).

(c) The credit protection uncovered portion of the exposure should be reported in column A1 of the row for the exposure class and risk-weight applicable to the exposure.

(d) In the case of—

(i) RMLs granted for the purchase of flats under the Home Ownership Scheme, Private Sector Participation Scheme, Tenants Purchase Scheme and other similar schemes which are covered by guarantees issued by Hong Kong Housing Authority;

(ii) reverse mortgage loans granted under the Reverse Mortgage Programme of HKMC Insurance Limited; and

(iii) RMLs granted under Mortgage Insurance Programmes of HKMC Insurance Limited,

the credit protection uncovered portion, if any, of the RMLs should be reported in Class VI and column A1 of item *27a* or *27c* whichever is applicable. The credit protection covered portion of the RMLs in relation to a guarantee provided by Hong Kong Housing Authority or an insurance provided by HKMC Insurance Limited should be reported in Class II and column A1 of item *13* if the guarantee or insurance concerned meets all the criteria set out in section 132 of the BCR.

26. CRM treatment by reduction of principal amount of exposures (applicable to on-balance sheet netting)

The net credit exposure calculated under section 130 of the BCR should be reported in column A1 of the row for the exposure class and risk-weight applicable to the obligor concerned.

B.4 Reporting of Off-balance Sheet Exposures other than Default Risk Exposures – Columns A2 and A3 in Division A

27. Off-balance sheet exposures (except default risk exposures and credit exposures arising from unsegregated collateral posted)

(a) If an off-balance sheet exposure is not covered by any recognized CRM, the whole principal amount (net of specific provisions if applicable) of the exposure and its ***credit equivalent amount*** (CEA) should be reported respectively in column A2 and column A3 of the row for the exposure class and risk-weight applicable to the exposure.

(b) If an off-balance sheet exposure is covered fully or partially by recognized CRM—

(i) the whole principal amount (net of specific provisions if applicable) of the exposure should be reported in column A2 of the row for the exposure class and risk-weight applicable to the exposure;

(ii) the amount reported in column A2 should be divided into the credit protection covered and uncovered portions and each of these portions should be multiplied by the ***credit conversion factor*** (CCF) applicable to the exposure;

(iii) the CEA of each credit protection covered portion should be reported in column A3 of the row for the exposure class and risk-weight applicable to the credit protection concerned; and

(iv) the CEA of the credit protection uncovered portion should be reported in column A3 of the row for the exposure class and risk-weight applicable to the exposure.

28. Off-balance sheet exposures arising from unsegregated collateral posted by reporting AI

In the case of off-balance sheet exposures to which section 118(2) of the BCR applies, the reporting AI should report the whole principal amount (net of specific provisions if applicable) of the collateral in columns A2 and A3 of the row for the exposure class and risk-weight applicable to the person holding the collateral.

B.5 Reporting of Off-balance Sheet Exposures that are Default Risk Exposures – Columns A2 and A4 in Division A

29. For any derivative contracts or SFTs entered into by the reporting AI with a counterparty, the AI should report the amounts listed below in column A2 of the row for the exposure class and risk-weight applicable to the counterparty:

(a) in the case of derivative contracts—the gross sum of the stated notional amounts of the derivative contracts entered into with the counterparty;

(b) in the case of SFTs—

(i) the principal amounts of any securities sold or lent to the counterparty by the AI under the SFTs;

(ii) the principal amounts of any money paid or lent to the counterparty by the AI under the SFTs; and

(iii) the principal amounts of any securities or money provided to the counterparty as collateral by the AI under the SFTs.

30. For any default risk exposure that is calculated by using the ***SA-CCR approach*** or the ***IMM(CCR) approach***—

(a) if the exposure is not covered by any recognized CRM[4], the ***outstanding default risk exposure*** of the ***netting set*** (or the default risk exposure if the netting set

[4] In the case of SFTs, "recognized CRM" refers to recognized guarantees and recognized credit derivative contracts as securities or money received by the AI under the SFTs have already been taken into account in the calculations under the IMM(CCR) approach, they should not be taken into account again under Part 5. In the case of derivative contracts, "recognized CRM" refers to recognized collateral whose credit risk mitigation effect can

contains SFTs only), net of specific provisions if applicable, should be reported in column A4 of the row for the exposure class and risk-weight applicable to the counterparty concerned;

(b) if—

(i) the exposure is covered fully or partially by recognized collateral and falls within section 126(1A)(c) of the BCR;

(ii) the exposure is covered fully or partially by a recognized guarantee or recognized credit derivative contract; or

(iii) the exposure falls within both subparagraphs (i) and (ii),

the reporting arrangement for column A4 is as follows:

(iv) the outstanding default risk exposure or default risk exposure, as the case may be, net of specific provisions if applicable, should be divided into the credit protection covered and uncovered portions;

(v) each credit protection covered portion should be reported in column A4 of the row for the exposure class and risk-weight applicable to the credit protection concerned; and

(vi) the credit protection uncovered portion should be reported in column A4 of the row for the exposure class and risk-weight applicable to the counterparty concerned.

31. For any default risk exposure that is calculated by using the ***current exposure method***—

(a) if the exposure is not covered by any recognized CRM, the outstanding default risk exposure of the derivative contract concerned, net of specific provisions if applicable, should be reported in column A4 of the row for the exposure class and risk-weight applicable to the counterparty concerned;

(b) if the exposure is covered fully or partially by one or more than one type of recognized CRM, the outstanding default risk exposure of the derivative contract concerned should be reported in column A4 in the same manner as set out in paragraph 30(b)(iv) to (vi).

32. Any default risk exposure that is calculated for an SFT in accordance with section 226MJ of the BCR and covered fully or partially by one or more than one type of recognized CRM should be reported in column A4 in the same manner as set out in paragraph 30(b)(iv) to (vi).

33. If the reporting AI issues a CLN to cover a default risk exposure, the amount of the proceeds received from the issuance of the CLN should not be included in the calculation of the amount of the default risk exposure under Division 1A, 2, 2A or 2B of Part 6A of the BCR. The AI may only take into account the CRM effect of the

---

be taken into account under section 126(1A)(c) of the BCR, recognized guarantees and recognized credit derivative contracts.

proceeds in the calculation of the RWA of the default risk exposure in accordance with section 135(8) of the BCR.

B.6 Reporting of Risk-weighted Amount – Column A6 in Division A

34. For all items in Division A except item *27b*, the RWA reported in column A6 is calculated by multiplying the sum of the amounts reported in columns A1, A3 and A4 by the risk-weight in column A5.

Section C: Reporting arrangements for Division B of Part IIIa

C.1 General Instructions

35. Unless otherwise stated in these completion instructions, the reporting AI is not required to report in Parts II, III, IV and V of Division B any derivative contract or SFT that is outside the scope of Divisions 1A, 2, 2A and 2B of Part 6A of the BCR (please refer to the "Q&As on exposures to counterparty credit risk and central counterparties" for more information). Default risk exposures reported in columns B11, B20, B26 and B35 should not be reduced by any ***CVA loss*** or specific provisions made. Outstanding default risk exposures in respect of derivative contracts and any specific provisions made for default risk exposures should be reported in Column A4 in Division A of this Form.

36. Breakdown of CEAs and default risk exposures by exposure class in Division B should be consistent with the exposure classes into which the off-balance sheet exposures concerned are classified for the purposes of Division A.

C.2 Part I of Division B - Off-balance Sheet Exposures other than Default Risk Exposures

37. The reporting AI should classify each of its off-balance sheet exposures other than default risk exposures into the appropriate standard items listed in paragraph 38 and report the exposures in Part I of Division B of this Form.

38. CCFs for items *1* to *10* are set out in sections 118(1) and 120 of the BCR.

Item no.	Nature of item
1.	Direct credit substitutes
2.	***Transaction-related contingencies***
3.	Trade-related contingencies
4.	Asset sales with recourse
5.	Forward asset purchases
6.	Partly paid-up shares and securities

7. ***Forward forward deposits placed***

This refers to a commitment of the reporting AI to place a forward forward deposit.

If the reporting AI has contracted to receive a forward forward deposit, failure to deliver by the counterparty will result in an unanticipated change in the AI's interest rate exposure and may involve a replacement cost. Such exposure should therefore be regarded as default risk exposures arising from ***interest rate contracts*** and reported in Part II, III or V of Division B, as the case requires.

8. ***Note issuance and revolving underwriting facilities***

9a. to c. Other commitments

Included is the undrawn portion of any binding arrangements which obligate the reporting AI to provide funds or to incur off-balance sheet exposures (e.g. commitment to issue letters of credit or performance bonds) at some future dates. The latter does not include commitments to enter into derivative contracts.

A commitment is regarded as being created no later than the acceptance in writing by the customer of the facility offered.

In the case of an off-balance sheet exposure (exposures A) arising from a commitment the drawdown of which will give rise to another off-balance sheet exposure (exposure B) falling within any of items *1* to *8* and *10*, the CCF applicable to exposure A should be the lower of—

- the CCF applicable to exposure A based on the ***original maturity*** of the commitment and whether it can be cancelled at any time unconditionally; and
- the CCF applicable to exposure B.

If the commitment is in the form of a general banking facility consisting of 2 or more credit lines (including lines for entering into derivative contracts), the AI should assign a CCF to exposure A based on the original maturity of the commitment and whether the commitment can be unconditionally cancelled at any time.

9a. This item includes off-balance sheet exposures arising from commitments—

- which are unconditionally cancellable without prior notice by the reporting AI other than for "force majeure" reason; or
- which effectively provide for automatic cancellation due to deterioration in a borrower's creditworthiness.

This item also includes any revolving or undated/open-ended commitments, e.g. overdrafts or unused credit card lines, provided that they are subject to credit review at least annually and can be unconditionally cancelled at any time.

9b. This item captures off-balance sheet exposures arising from—

- commitments with an original maturity of up to one year; or
- commitments the drawdown of which would give rise to off-balance sheet exposures subject to a CCF of 20%.

9c. This item captures off-balance sheet exposures arising from—

- commitments with an original maturity of over one year; or
- commitments the drawdown of which would give rise to off-balance sheet exposures subject to a CCF of 50%.

10. Off-balance sheet exposures not specified above

10a. This item captures off-balance sheet exposures that do not fall within items *1* to *9* and that are subject to a CCF of 100%. Such exposures include, but not limited to—

- off-balance sheet exposures to the credit risk of the underlying assets of cash-settled derivative contracts (e.g. equity forward contracts) booked in the reporting AI's banking book; and
- credit exposures to persons holding unsegregated collateral posted by the reporting AI (other than collateral posted that is included in the default risk exposures reported in Part II, III, IV or V of Division B of this Form and Form MA(BS)3(IIIe)) (see section 118(2) of the BCR).

10b. to d. These items capture off-balance sheet exposures that do not fall within items *1* to *9* and that are subject to a CCF specified in Part 2 of Schedule 1 to the BCR. For other off-balance sheet exposures not mentioned above, the reporting AI should consult the HKMA on the reporting arrangements.

39. The reporting AI should report each of its off-balance sheet exposures as follows:

(a) report in column B2 the principal amount (net of specific provisions if applicable) of the exposure;

(b) report in column B3 the CEA of the exposure (i.e. the product of the amount reported in column B2 and the applicable CCF specified in column B1); and

(c) report the CEA of the exposure in one of columns B4 to B9[5] if the exposure falls within any one of the following exposure classes—

(i) Class I Sovereign exposures;

(ii) Class II Public sector entity (PSE) exposures;

(iii) Class III Multilateral development bank (MDB) exposures;

(iv) Class IV Bank exposures;

(v) Class VI Residential mortgage loans; and

(vi) Class VIII Other exposures.

C.3 Part II of Division B - Default Risk Exposures in respect of Derivative Contracts[6] (Current Exposure Method)

40. If the reporting AI uses the current exposure method to calculate default risk exposures, it should report the exposures so calculated in the appropriate items in Part II of Division B.

Item no.	Nature of item
11.	Interest rate contracts
12.	***Exchange rate contracts***
13.	***Credit-related derivative contracts***
14.	***Equity-related derivative contracts***
15.	***Commodity-related derivative contracts***
16.	Other derivative contracts not specified above
17.	Of which: Offsetting or CCP-related transactions with clearing members or clearing clients This item is for reporting the amounts captured under items *11 to 16* that are related to ***offsetting transactions*** or ***CCP-related transactions*** entered into by the reporting AI with ***clearing members*** or ***clearing clients*** (see Annex IIIe-A and paragraph 5 of the completion instructions for Form MA(BS)3(IIIe) for more information on exposures related to centrally cleared transactions that should be reported in this Form).

[5] Only breakdown by major exposure classes is required. As a result, for each row, the total amount reported in column B3 would be greater than or equal to the sum of the total amounts reported in columns B4 to B9.

[6] Derivative contracts include long settlement transactions that fall within paragraph (c) or (d) of the definition of "derivative contract" in section 2(1) of the BCR. For example, a long settlement transaction that is a FX spot transaction must be reported as an exchange rate contract.

41. The reporting AI should report each of its derivative contracts entered into with a counterparty as follows:

(a) report in column B10 the stated notional amount of the derivative contract;

(b) report in column B11 the default risk exposure of the derivative contract calculated under the current exposure method; and

(c) report the default risk exposure of the derivative contract in one of columns B12 to B16[7] if the counterparty to the contract is a sovereign, PSE, MDB, bank, corporate or individual.

42. The total of all stated notional amounts reported in column B10 of each of items *11* to *17* should be the gross sum of the stated notional amounts.

43. To avoid doubt, sold options falling within section 226MB(2) of the BCR should also be reported. However, the reporting AI is not required to report credit derivative contracts falling within section 226MC of the BCR in Part II of Division B[8].

C.4 Part III of Division B - Default Risk Exposures in respect of Derivative Contracts[9] (SA-CCR approach)

44. If the reporting AI uses the SA-CCR approach to calculate default risk exposures, it should report the exposures so calculated in the appropriate items in Part III of Division B (See Annex IIIa & IIIb-A for numerical examples).

Item no.	Nature of item
18.	Unmargined contracts not covered by recognized netting This item captures derivative contracts— • that fall within the definition of ***unmargined contract*** in section 226BA of the BCR; and • that are not covered by recognized netting. The following contracts should also be reported in this item— • contracts that fall within section 226BH(2) or (4) of the BCR; and • contracts that have been removed from the netting sets concerned under section 226BH(3)(b) or (5) of the BCR.

[7] Only breakdown by major exposure classes is required. As a result, for each row, the total amount reported in column B11 would be greater than or equal to the sum of the total amounts reported in columns B12 to B16.
[8] This is to avoid double counting as the notional amounts of the contracts concerned are somehow reflected in the amounts reported in Division A (e.g. credit protection covered portions) or Part I of Division B (e.g. direct credit substitutes).
[9] See footnote 6.

19. Margined contracts not covered by recognized netting

This item captures derivative contracts—

- that fall within the definition of ***margined contract*** in section 226BA of the BCR; and
- that are not covered by recognized netting.

20. Contracts covered by recognized netting

This item captures derivative contracts (whether they are margined contracts or not) covered by recognized netting.

21. Out of the amounts reported in items 18, 19 and 20, the amounts for offsetting or CCP-related transactions with clearing members or clearing clients

This item is for reporting the amounts captured under items *18 to 20* that are related to offsetting transactions or CCP-related transactions entered into by the reporting AI with clearing members or clearing clients (see Annex IIIe-A and paragraph 5 of the completion instructions for Form MA(BS)3(IIIe) for more information on exposures related to centrally cleared transactions that should be reported in this Form).

45. For all items in Part III of Division B—

(a) if a netting set contains a credit derivative contract that falls within section 226BI of the BCR and the reporting AI has—

(i) treated the default risk exposure of such credit derivative contract as zero; and

(ii) removed such credit derivative contract from the netting set (i.e. the default risk exposure of the netting set is calculated as if the credit derivative contract did not exist),

the reporting AI is not required to report such credit derivative contract in Part III of Division B[10];

(b) the amount reported in column B17 is the gross sum of the stated notional amounts of the relevant derivative contracts.

46. For item *18*—

(a) report in column B18 the replacement cost of a derivative contract calculated in accordance with Division 1A of Part 6A of the BCR by using the formula applicable to the contract. In the case of a sold option whose default risk exposure

[10] See footnote 8.

is set to zero under 226BH(2) or (3) of the BCR, the replacement cost of the option may be reported as zero;

(b) report in column B19 the potential future exposure of the derivative contract calculated in accordance with Division 1A of Part 6A of the BCR by using the formulas applicable to the asset class into which the contract falls. In the case of a sold option whose default risk exposure is set to zero under section 226BH(2) or (3) of the BCR, the potential future exposure of the option may be reported as zero;

(c) report in column B20 the default risk exposure of the derivative contract (i.e. the sum of the amounts reported in columns B18 and B19 multiplied by 1.4); and

(d) report the default risk exposure of the derivative contract in one of columns B21 to B25[11] if the counterparty to the contract is a sovereign, PSE, MDB, bank, corporate or individual.

47. The reporting arrangements mentioned in paragraph 46 also apply to item *19*. Also—

(a) if the default risk exposure calculated for a margined contract on an unmargined basis is regarded as the default risk exposure of the contract, the default risk exposure calculated on an unmargined basis should be reported in column B20 (see section 226BH(1) of the BCR);

(b) if more than one derivative contract is covered by a single ***variation margin agreement***—

(i) the stated notional amount of each of the derivative contracts should be reported in column B17 of item *19a, 19b, 19c, 19d or 19e*, as the case requires;

(ii) there is no need to report the replacement cost, potential future exposure and default risk exposure calculated for these contracts by type of contract. The amounts calculated under sections 226BE(3), 226BS and 226BE(2) of the BCR should be reported in columns B18, B19 and B20 of item *19f* respectively.

48. For item *20*, the replacement cost, potential future exposure and default risk exposure of a netting set or a group of netting sets, as the case may be, should be reported in the row "SUBTOTAL" of columns B18, B19 and B20 respectively. The reporting arrangements mentioned in paragraphs 46(c) and 46(d) and paragraph 47(a) apply to the netting set or the group of netting sets as they apply to a single derivative contract.

C.5 Part IV of Division B - Default Risk Exposures in respect of SFTs (Non-IMM(CCR) Approach)

49. If the reporting AI calculates default risk exposures in respect of SFTs under Division 2B of Part 6A of the BCR, it should report the exposures so calculated in the appropriate items in Part IV of Division B as follows:

[11] Only breakdown by major exposure classes is required. As a result, for each row, the total amount reported in column B20 would be greater than or equal to the sum of the total amounts reported in columns B21 to B25.

(a) Under item *22a,* for each of the SFTs entered into by the reporting AI—

  (i) report in column B26 the default risk exposure of the SFT calculated under section 226MJ of the BCR; and

  (ii) report the default risk exposure in one of columns B27 to B31[12] if the counterparty to the SFT is a sovereign, PSE, MDB, bank, corporate or individual.

(b) Item *22b* is for reporting the amounts captured under item *22a* that are related to offsetting transactions or CCP-related transactions entered into by the reporting AI with clearing members or clearing clients (see Annex IIIe-A and paragraph 5 of the completion instructions for Form MA(BS)3(IIIe) for more information on exposures related to centrally cleared transactions that should be reported in this Form).

C.6 Part V of Division B - Default Risk Exposures (IMM(CCR) Approach)

50. If the reporting AI uses the IMM(CCR) approach to calculate default risk exposures, it should report the exposures so calculated in the appropriate items in Part V of Division B.

Item no.	Nature of item
23.	Portfolio-level risk-weighted amount based on current market data The portfolio-level RWA calculated under section 226D(1)(a) and (2)(a) of the BCR should be reported in this item.
24.	Portfolio-level risk-weighted amount based on stress calibration The portfolio-level RWA calculated under section 226D(1)(b) and (2)(b) of the BCR should be reported in this item. Only the higher of item *23* and item *24* will be used in the calculation of the total RWA for credit risk under the BSC approach.
25. to *28.*	Items *25* to *28* capture the breakdown of the default risk exposures included in the portfolio-level RWA that will be used in the capital adequacy ratio calculation. In other words, if the portfolio-level RWA calculated using current market data is larger, the default risk exposures reported in items *25* to *28* should be those used in calculating the RWA reported in item *23*.
25.	Netting sets (not subject to recognized netting) This item captures transactions—

[12] Only breakdown by major exposure classes is required. As a result, for each row, the total amount reported in column B26 would be greater than or equal to the sum of the total amounts reported in columns B27 to B31.

- that are not subject to recognized netting; or
- that are required to be treated as a separate netting set under section 226J(1) of the BCR.

If the reporting AI's ***IMM(CCR) approval*** covers one or more than one of the following categories of transactions:

- derivative contracts (excluding ***long settlement transactions*** (LSTs));
- SFTs (excluding LSTs); and
- LSTs,

the AI should report each of its transactions in item *25a*, *25b* or *25c* based on the category within which the transaction falls.

26. Netting sets (subject to valid bilateral netting agreements)

This item captures transactions—

- that are subject to ***valid bilateral netting agreements***; and
- that are not required to be treated as a separate netting set under section 226J(1) of the BCR.

Derivative contracts and SFTs covered by the reporting AI's IMM(CCR) approval must be reported in items *26a* and *26b* respectively. The amounts reported in these two items will include derivative contracts and SFTs that are LSTs unless these LSTs are not covered by the IMM(CCR) approval.

If the reporting AI's IMM(CCR) approval only covers LSTs, the AI should report the LSTs in item *26c*.

27. Netting sets (subject to valid cross-product netting agreements)

This item captures transactions—

- that are subject to ***valid cross-product netting agreements***; and
- that are not required to be treated as a separate netting set under section 226J(1) of the BCR.

LSTs are included unless the IMM(CCR) approval of the reporting AI does not cover LSTs.

28. Out of the amounts reported in items 25, 26 and 27, the amounts for offsetting or CCP-related transactions with clearing members or clearing clients

This item is for reporting the amounts captured under items *25* to *27* that are related to offsetting transactions or CCP-related transactions entered into by the reporting AI with clearing members or clearing clients (see

Annex IIIe-A and paragraph 5 of the completion instructions for Form MA(BS)3(IIIe) for more information on exposures related to centrally cleared transactions that should be reported in this Form).

51. The reporting AI should report the default risk exposures calculated under the IMM(CCR) approach in Part V of Division B of this Form as follows:

(a) report in column B33 of items *25a, 25c, 26a, 26c, 27a* and *28a* the gross sum of the stated notional amounts of the derivative contracts and LSTs concerned;

(b) report in column B34 of items *25b, 25c, 26b, 26c, 27b, 27c* and *28a* the principal amounts of the securities sold, lent or delivered, or the money paid, by the AI to the counterparties under the SFTs and LSTs concerned;

(c) report in column B35 of items *25a to 26c, 27* and *28a* the default risk exposures of the netting sets concerned calculated under section 226E of the BCR. In the case of item *25,* the netting set only contains one transaction; and

(d) report the default risk exposure of each of the netting sets reported in column B35 in one of columns B36 to B40[13] if the counterparty to the netting set is a sovereign, PSE, MDB, bank, corporate or individual.

52. If a netting set contains a credit derivative contract that falls within section 226I of the BCR and the reporting AI has—

(a) treated the default risk exposure of such credit derivative contract as zero; and

(b) removed such credit derivative contract from the netting set (i.e. the default risk exposure of the netting set is calculated as if the credit derivative contract did not exist),

the reporting AI is not required to report such credit derivative contract in Part V of Division B of this Form[14].

C.7 Multiple Credit Risk Mitigation

53. If an exposure is covered by two or more forms of recognized CRM (e.g. with both collateral and guarantee partially covering the exposure), the treatments for the recognized CRM are set out in section 136(1) and (2) of the BCR. The calculation of the RWA of each portion will be done separately.

54. Unless otherwise stated in the BCR, the reporting AI may determine, at its discretion, how recognized CRM that is shared by multiple exposures are allocated to each of the exposures for the purpose of RWA calculation.

---

[13] Only breakdown by major exposure classes is required. As a result, for each row, the total amount reported in column B35 would be greater than or equal to the sum of the total amounts reported in columns B36 to B40.
[14] See footnote 8.

C.8 Maturity Mismatches

55. If the credit protection provided has a residual maturity which is shorter than the residual maturity of the exposure, the reporting AI must not take into account the CRM effect of that credit protection.

Hong Kong Monetary Authority
June 2021

Completion Instructions

Return of Capital Adequacy Ratio
Part IIIb – Risk-weighted Amount for Credit Risk
Standardized (Credit Risk) Approach
Form MA(BS)3(IIIb)

Introduction

1. Form MA(BS)3(IIIb) of Part III should be completed by each authorized institution (AI) incorporated in Hong Kong using the ***standardized (credit risk) approach (STC approach)*** to calculate ***credit risk*** under Part 4 of the Banking (Capital) Rules (BCR).

2. This Form covers the following exposures of a reporting AI:

   (a) All on-balance sheet exposures and off-balance sheet exposures booked in its ***banking book***, except:

   (i) exposures subject to deduction from the ***CET1 capital***, ***additional tier 1 capital*** and/or ***tier 2 capital*** (which should be reported in Form MA(BS)3(II));

   (ii) ***securitization exposures*** subject to Part 7 of the BCR (which should be reported in Form MA(BS)3(IIId)); and

   (iii) exposures to ***central counterparties*** (CCPs) subject to Division 4 of Part 6A of the BCR (which should be reported in Form MA(BS)3(IIIe)).

   (b) All ***default risk exposures*** to counterparties under ***securities financing transactions*** (SFTs) and ***derivative contracts*** booked in its ***trading book***, except:

   (i) exposures subject to deduction from the CET1 capital, additional tier 1 capital and/or tier 2 capital (which should be reported in Form MA(BS)3(II)); and

   (ii) exposures to CCPs subject to Division 4 of Part 6A of the BCR (which should be reported in Form MA(BS)3(IIIe)).

   (c) All credit exposures to persons in respect of ***unsegregated collateral*** posted by the AI to those persons except:

   (i) exposures subject to deduction from the CET1 capital, additional tier 1 capital and/or tier 2 capital (which should be reported in Form MA(BS)3(II)); and

   (ii) exposures to CCPs subject to Division 4 of Part 6A of the BCR (which should be reported in Form MA(BS)3(IIIe)).

   (d) If applicable, the AI's market risk positions which are (i) exempt from the requirements of Part 8 of the BCR; and (ii) subject to Part 4 of the BCR as required by section 22(4)(c) of the BCR.

3. <u>This Form and these completion instructions should be read in conjunction with the BCR and the relevant supervisory policy/guidance</u> related to the capital adequacy framework.

<u>Section A: Definitions and Clarification</u>

4. In these instructions—

   (a) "gross sum of the stated notional amounts" refers to the sum of the stated notional amounts of all relevant contracts, without the stated notional amounts of contracts with positive replacement costs being reduced by the stated notional amounts of contracts with negative or zero replacement costs, regardless of whether the contracts are subject to ***recognized netting***.

   (b) "recognized CRM" refers to ***recognized collateral***, recognized netting, ***recognized guarantees*** and ***recognized credit derivative contracts***. To avoid doubt, guarantees issued by other offices of the reporting AI are not regarded as ***recognized credit risk mitigation***. Debt securities which are ***re-securitization exposures*** (whether rated or not) cannot be recognized as collateral (see sections 79(2) and 80(2) of the BCR).

   (c) "stated notional amount" means the nominal ***notional amount*** of a derivative contract. It should not be confused with any effective notional amount or adjusted notional calculated for the derivative contract under Part 6A of the BCR.

5. Double counting of exposures arising from the same contract or transaction should be avoided. For example, only the undrawn portion of a loan commitment should be reported as an off-balance sheet exposure while the actual amount which has been lent out should be reported as an on-balance sheet exposure. ***Trade-related contingencies***, such as trust receipts and shipping guarantees, which have already been reported as letters of credit issued or loans against import bills etc. should not be counted again as off-balance sheet exposures.

6. In certain cases, ***counterparty default risk*** exposures arising from derivative contracts may already be reflected, in part, on the reporting AI's balance sheet. For example, the AI may have recorded the ***fair value*** of a derivative contract on its balance sheet. To avoid double counting, such amount should be excluded from on-balance sheet exposures and treated as off-balance sheet exposures for the purposes of this Form.

7. Accruals on an exposure should be classified and risk-weighted in the same way as the exposure. Accruals which cannot be so classified should, with the ***prior consent*** of the Monetary Authority (MA), be included in Class XI (Other exposures which are not ***past due exposures***).

8. For <u>**SFTs**</u> booked in the reporting AI's banking book—

   (a) if the assets underlying the SFTs are ***non-securitization exposures***, the AI's credit exposures to the assets underlying the SFTs should be reported in <u>Division A</u> of this Form (see also section 75(2) and (4) of the BCR);

   (b) if the assets underlying the SFTs are securitization exposures, the AI's credit exposures to the assets underlying the SFTs should be risk-weighted in accordance

with Part 7 of the BCR and reported in Form MA(BS)3(IIId) (see also section 75(5) of the BCR).

9. For SFTs booked in the reporting AI's trading book, the AI's exposures to the assets underlying the SFTs are market risk exposures. Hence, the AI only needs to calculate the ***risk-weighted amounts*** (RWAs) of its market risk exposures to the assets in accordance with Part 8 of the BCR (see section 76 of the BCR) and reports the exposures in Form MA(BS)3(IV). The AI is not required to calculate any RWA for the credit risk of the assets. However, if the AI is granted an exemption under section 22 of the BCR, the AI should comply with section 75 instead of section 76 in calculating the RWAs of its exposures to the assets, and report the exposures in this Form instead.

10. An ***originating institution*** of a ***non-eligible securitization transaction*** must report the RWA of the ***underlying exposures*** of the transaction in this Form as if the exposures were not securitized. If the credit risk mitigation (CRM) afforded to the underlying exposures of an ***eligible synthetic securitization transaction*** is not in the form of ***tranched credit protection***, the underlying exposures must be reported in this Form in the same manner as a non-eligible securitization transaction except that the CRM for transferring the credit risk of the underlying exposures to the other parties to the transaction can be taken into account in the RWA calculation and therefore should also be included in the reporting. However, if the CRM is in the form of tranched credit protection, both the underlying exposures and the CRM effect must be reported in Form MA(BS)3(IIId) (please see paragraph 15(b) of the completion instructions for Form MA(BS)3(IIId)). For cases which are not specified in these instructions or in any other supervisory guidance relevant to ***securitization transactions***, reporting AIs should consult the HKMA on the reporting arrangements.

Section B: Reporting arrangements for Division A of Part IIIb

B.1 Exposure Classification

11. Division A of this Form is organized according to the following standard exposure classes into which on-balance sheet and off-balance sheet exposures should be classified under the STC approach:

Class I	***Sovereign*** exposures
Class II	***Public sector entity*** exposures
Class III	Multilateral development bank exposures
Class IV	***Bank*** exposures
Class V	***Securities firm*** exposures
Class VI	***Corporate*** exposures
Class VII	***Collective investment scheme*** exposures [Reserved for future use, see paragraph 20 below.]
Class VIII	***Cash items***
Class IX	***Regulatory retail exposures***
Class X	***Residential mortgage loans***
Class XI	Other exposures which are not past due exposures

Class XII	Past due exposures
Class XIII	Exposures subject to 1250% risk-weight

12. The exposure classes are mutually exclusive and therefore each exposure should be reported under only one of them. However, it should be noted that a single transaction may give rise to more than one exposure. For example, a derivative contract booked in the banking book has counterparty default risk and may also have a credit exposure to the asset underlying the derivative contract.

13. Classification of ***credit-linked notes*** (CLN) held

(a) A rated, single-name CLN should be reported in Division A under—

(i) the exposure class applicable to the issuer of the CLN if the risk-weight attributable to the CLN is determined by mapping the ***ECAI issue specific rating*** of the CLN to the scale of ***credit quality grades*** applicable to the issuer; or

(ii) the exposure class applicable to the ***reference entity*** of the CLN if the risk-weight attributable to the CLN is determined by mapping the ECAI issue specific rating of the CLN to the scale of credit quality grades applicable to the reference entity.

If no scale of credit quality grades is applicable to the ECAI issue specific rating of the CLN (e.g. the rating is issued by an Indian ***ECAI*** but neither the issuer nor the reference entity is a corporate incorporated in India), the AI should treat the CLN as unrated for risk-weighting purposes and classify the CLN into an exposure class in accordance with paragraph (b).

(b) An unrated, single-name CLN should be reported in Division A under—

(i) the exposure class applicable to the issuer of the CLN if the risk-weight attributable to the CLN is determined as the ***attributed risk-weight*** of the issuer; or

(ii) the exposure class applicable to the ***reference obligation*** of the CLN if the risk-weight attributable to the CLN is determined as the risk-weight attributable to the reference obligation as if it were held directly by the reporting AI.

(c) A multiple-name CLN (e.g. a first-to-default CLN) should be reported in Class XI item *20f* regardless of whether the CLN is rated or not.

14. Classification of off-balance sheet exposures

Off-balance sheet exposures must be classified into exposure classes in the same manner as on-balance sheet exposures (i.e. based on the source of credit risk). In particular—

(a) in the case of an ***asset sale with recourse*** or ***forward asset purchase***, since the credit risk is arising from the asset that could be repurchased or is to be purchased in the future, the exposure should be classified into the exposure class within which the

asset sold/to be purchased (e.g. equities), or the ***obligor*** of the asset (e.g. debt securities), would fall if the asset were held by the reporting AI;

(b) in the case of ***partly paid-up shares and securities***, since the credit risk associated with the shares or securities is in effect passed to the reporting AI, the exposure should be classified into the exposure class within which the relevant shares or securities would fall if they were on-balance sheet exposures of the reporting AI;

(c) in the case of a ***direct credit substitute*** arising from the selling of ***credit protection*** in the form of ***total return swap*** or ***credit default swap*** booked in the reporting AI's banking book, the exposure should be classified into the exposure class within which the relevant reference obligation of the swap would fall if the reference obligation were an on-balance sheet exposure of the reporting AI. If the swap provides credit protection to a basket of reference obligations, the exposure should be classified into Class XI; and

(d) in the case of default risk exposures, the exposures should be classified into the exposure classes within which the counterparties to the derivative contracts or SFTs concerned fall.

B.2 Specific Instructions related to the Use of ECAI Ratings

15. ***ECAI ratings*** issued by the following ECAIs can only be used for determining the risk-weights applicable to exposures to corporates incorporated in India:

(a) ***ICRA Limited***

(b) ***Credit Analysis and Research Limited***[1]

(c) ***CRISIL Limited***

16. When applying section 69 of the BCR to an unrated exposure, if the obligor of the exposure has an ***ECAI issuer rating*** and any of its other debt obligations has an ECAI issue specific rating, the reporting AI will have the discretion to choose which rating to use for the purpose of determining the risk-weight applicable to the exposure.

B.3 Specific Instructions for Selected Exposure Classes

17. **Class I Sovereign Exposures**

Item 1 **-** ***domestic currency exposures*** to the Government

(a) Only exposures to the Government, such as deposits placed with, and loans made to the Government (including those for the account of the Exchange Fund and the clearing balances with the Exchange Fund), that are denominated and funded in Hong Kong dollars can be reported in item *1a*. Foreign currency exposures to the Government should be reported in item *2*.

[1] Name of the company changed to CARE Ratings Limited with effect from 6 July 2017.

(b) The ***credit protection covered portions*** of exposures secured by debt securities denominated in Hong Kong dollars issued by the Government should be reported in item *1c* if the reporting AI uses the simple approach to take into account the CRM effect of the debt securities and any one or more of the conditions set out in section 82(4)(d) of the BCR are not met.

(c) Market makers who have short positions in Exchange Fund Bills/Notes may report their net holdings of such instruments provided that the short positions are covered by the Sale and Repurchase Agreements with the HKMA. The following steps should be taken in determining the amount to be reported in item *1a*:

(i) the long and short positions of instruments with a residual maturity of less than 1 year may be offset with each other;

(ii) the long and short positions of instruments with a residual maturity of not less than 1 year may be offset with each other;

(iii) if the net positions of both (i) and (ii) above are long, the positions should be reported;

(iv) if the net position in (i) is long and the net position in (ii) is short, or the other way round, the two positions can be netted with each other on a dollar for dollar basis. The resultant net long position, if any, should be reported.

18. **Class IV Bank Exposures**

For the purposes of this exposure class, clean[2] export trade bills negotiated under other banks' letters of credit may be reported as exposures to the issuing banks of the letters of credit.

19. **Class VI Corporate Exposures**

To avoid doubt, corporate exposures include exposures to regional, provincial or municipal governments.

20. **Class VII Collective Investment Scheme Exposures**

This exposure class is reserved for future use. If the reporting AI has any equity investment in a collective investment scheme, the investment must be reported under Class XI.

21. **Class VIII Cash Items**

(a) Items *13* and *14* - Gold bullion

(i) Gold bullion held in safe custody for other entities or customers, which does not expose the reporting AI to any credit risk, is not required to be included in this Form.

[2] This includes cases where discrepancies have been accepted by the issuing bank concerned.

(ii) Gold bullion held on an unallocated basis by a third party for the reporting AI backed by gold liabilities should be reported under the exposure class to which the third party belongs instead of under Class VIII.

(iii) Gold bullion held <u>not</u> backed by gold liabilities (i.e. all other holdings of gold bullion not falling within subparagraph (ii) and not included in item *13*) should be reported in item *14*.

(b) Item *15* - "Cash items in the course of collection"

This item refers to the amount of cheques, drafts and other items drawn on other banks which are payable to the account of the reporting AI immediately upon presentation and which are in the process of collection, and includes –

(i) cheques and drafts against which the AI has paid to its customers (i.e. by purchasing or discounting the cheques or drafts presented by the customers) and in respect of which it now seeks payment from the drawee banks;

but excludes—

(ii) import and export trade bills held by the AI which are in the process of collection (they should be reported as exposures to the counterparties concerned and allocated risk-weights applicable to the counterparties);

(iii) unsettled clearing items that are being processed through any interbank clearing system in Hong Kong; and

(iv) receivables arising from transactions in securities (other than ***repo-style transactions***), and transactions in foreign exchange and ***commodities,*** that are not yet due for settlement.

(c) Item *16* - Failed settlements

(i) Items *16a* to *16e* capture any transaction in securities (other than repo-style transaction), and any transaction in foreign exchange or commodities, that is entered into on a ***delivery-versus-payment (DvP) basis***[3] where payment / delivery has not yet taken place after the settlement date.

(ii) The following exposures should not be included in item *16*—

(A) If a transaction in securities (other than repo-style transaction), or a transaction in foreign exchange or commodities, is entered into on a non-DvP basis and payment / delivery from the counterparty concerned has not yet taken place up to and including the fourth ***business day*** after the settlement date, the amount of the payment made or the current market value of the thing delivered by the reporting AI, plus any ***positive current exposure*** associated with the transaction, should be treated as an exposure to that counterparty. The amount of the exposure should be

[3] DvP transactions include payment-versus-payment (PvP) transactions.

reported under the exposure class to which the counterparty belongs and risk-weighted at the risk-weight applicable to that counterparty.

(B) When payment / delivery under the above non-DvP transaction has not yet taken place for five or more business days after the settlement date, the reporting AI should report the exposure in item *22c* under Class XIII.

(d) Item *17* - Exposures collateralized by cash collateral

(i) This item captures exposures collateralized by the following assets (collectively referred to as "cash collateral") where the CRM effect of the cash collateral is taken into account by using the ***simple approach***—

(A) cash on deposit with the reporting AI; or

(B) certificates of deposit, or comparable instruments, issued by the reporting AI.

(ii) The reporting AI should report the credit protection covered portion of the exposures in—

(A) item *17a* if there is ***currency mismatch*** between the cash collateral and the exposures;

(B) item *17b* if the exposures are default risk exposures arising from repo-style transactions that fall within section 82(3) of the BCR; or

(C) item *17c*—

- if the exposures are default risk exposures arising from repo-style transactions that fall within section 82(2) of the BCR; or

- in any other case, if there is no currency mismatch between the cash collateral and the exposures.

(iii) However, when the cash collateral is held at a third-party bank in a non-custodial arrangement and unconditionally and irrevocably pledged or assigned to the reporting AI, the credit protection covered portion concerned must be reported as an exposure to that third-party bank under Class IV and therefore must not be reported in item *17*.

22. **Class IX Regulatory Retail Exposures**

(a) If the regulatory retail exposures to a borrower include a residential mortgage loan (RML) which is eligible for a risk-weight of 75% according to section 65(4)(a) of the BCR, the RML should be reported in item *19b* of Class X (Residential Mortgage Loans).

(b) Exposures to ***small businesses*** or individuals which are not past due exposures and which do not satisfy the criteria for inclusion as regulatory retail exposures or residential mortgage loans (Class X) should be reported as either corporate exposures

(Class VI) or other exposures which are not past due exposures (Class XI), as the case requires.

23. **Class X Residential Mortgage Loans**

(a) RMLs that satisfy the criteria set out in section 65(1) of the BCR are risk-weighted at 35% and should be reported under item *19a*.

(b) RMLs that are not eligible for the risk-weight of 35% and that are allocated a risk-weight of 75% under section 65(4)(a) of the BCR should be reported under item *19b*.

(c) Other RMLs, i.e. those which do not satisfy the criteria set out in section 65(1) and (4)(a) of the BCR, should be risk-weighted at 100% and reported under item *19c*.

(d) If the reporting institution has opted to risk-weight those RMLs which are secured by a first legal charge on residential properties situated outside Hong Kong according to the regulatory capital rules of the jurisdictions in which the properties are situated, the RMLs should be reported under item *19d* if the applicable risk-weights are other than 35%, 75% and 100%. RMLs which are risk-weighted at 35%, 75% or 100% according to those jurisdictions' regulatory capital rules should be reported under item *19a*, *19b* or *19c*, whichever is applicable.

(e) See paragraph 129(d) for the reporting arrangement of RMLs guaranteed by Hong Kong Housing Authority or insured by HKMC Insurance Limited.

24. **Class XI Other Exposures which are not Past Due Exposures**

Included in this exposure class are exposures—

(a) that are subject to credit risk capital requirements; and

(b) that have not been included in Classes I to VI, VIII to X, XII and XIII in this Form.

Exposures included in this exposure class are subject to a risk-weight of 100%, unless otherwise specified in the BCR or by the MA.

Item no.	Nature of item
20a.	Exposures to individuals not elsewhere reported This item refers to exposures to individuals which have not been included in Class X (Residential Mortgage Loans) and do not satisfy the qualifying criteria for inclusion in Class IX (Regulatory Retail Exposures).
20b.	Holdings of equity or other forms of capital instruments issued by, and non-capital LAC liabilities of, financial sector entities subject to 100% risk-weight This item is for reporting holdings, whether rated or not, falling within section 66(1)(a)(i) and (iii) of the BCR which are subject to 100% risk-weight under section 66(2)(a) of the BCR.

20c. Investments in equity of entities (other than financial sector entities) subject to 100% risk-weight

Included are investments in ***commercial entities*** which are subject to 100% risk-weight (see sections 66 and 68A of the BCR).

20d. Premises, plant and equipment, other fixed assets for own use, and other interest in land

Included are—

- investments in premises, plant and equipment and all other fixed assets of the reporting AI which are held for own use;
- a right-of-use asset recognized by the reporting AI as a lessee in accordance with the prevailing accounting standards issued by Hong Kong Institute of Certified Public Accountants where the asset leased is a tangible asset; and
- other interests in land which are neither occupied by the reporting AI nor used in the operation of the AI's business.

20e. Holdings of equity or other forms of capital instruments issued by financial sector entities subject to 250% risk-weight

This item is for reporting holdings, whether rated or not, falling within section 66(1)(a)(ii) of the BCR which are subject to 250% risk-weight under section 66(2)(b) of the BCR.

20f. Multiple-name credit-linked notes / sold credit protection to basket of exposures

This item refers to—

- multiple-name CLN (e.g. first-to-default CLN) for which the applicable risk-weights are determined according to section 68(e) of the BCR (also see paragraph 13(c) above); and
- sold credit protection to a basket of reference obligations, where the protection is in the form of total return swap or credit default swap booked in the reporting AI's banking book and the risk-weight applicable to the protection is determined according to section 74(3), (4), (5) or (6) of the BCR.

20g. Other exposures not elsewhere reported

This item refers to other investments or exposures which are subject to credit risk capital requirements and have not been reported in Classes I to VI, VIII to X, XI (items *20a* to *20f*), XII and XIII.

This item also includes—

(a) the credit protection covered portions of the following exposures:

- exposures secured by recognized collateral, where the risk-weights applicable to the collateral are determined under Part 7 of the BCR and the CRM effect of the collateral is taken into account by using the simple approach;

- exposures covered by recognized credit derivative contracts eligible for a risk-weight of 2% or 4% under section 100(10) or 101(6A) of the BCR (The credit protection covered portions should be reported as a separate item from the credit protection covered portions mentioned in the first bullet and other exposures reported in this item). To avoid doubt, if the recognized credit derivative contracts concerned fall within section 226BI(b) or 226I(b) of the BCR, the default risk exposures in respect of the contracts are regarded as zero for the purposes of Form MA(BS)3(IIIe);

(b) exposures whose risk-weights are specified by the MA under section 66(3) of the BCR; and

(c) exposures to collective investment schemes (other than those falling within section 66(1)(a) of the BCR).

25. **Class XII Past Due Exposures**

Included in this class are past due exposures and their credit protection covered portion (if any). In other words, the credit protection covered portion of past due exposures should not be reported in the exposure class applicable to the credit protection (see also paragraphs 29 and 30).

26. **Class XIII Exposures subject to 1250% risk-weight**

Report here the following types of exposure which are subject to a risk-weight of 1250%.

Item no.	Nature of item
22a.	First loss portion of credit protection This item refers to the first loss portion mentioned in section 101(2) and (8) of the BCR.
22b.	Significant exposures to commercial entities This item refers to the reporting AI's holdings of shares in commercial entities that exceed the threshold set out in section 68A of the BCR.
22c.	Non-DvP transactions remain unsettled for 5 or more business days This item refers to the amount of payment made or the current market value of the thing delivered by the reporting AI, plus any positive current exposure, in respect of a transaction in securities (other than a repo-style

transaction), or a transaction in foreign exchange or commodities, entered into on a basis other than a DvP basis, where the payment or deliverables from the counterparty concerned remains unsettled after the settlement date for 5 or more business days (see also section 63A of the BCR).

B.4 Reporting of On-balance Sheet Exposures – Columns A1 and A2 in Division A

27. If an on-balance sheet exposure is not covered by any recognized CRM, the whole ***principal amount*** (after deduction of ***specific provisions***) of the exposure should be reported in both columns A1 and A2 of the row for the exposure class and risk-weight applicable to the exposure.

28. If an on-balance sheet exposure is covered fully or partially by recognized CRM—

    (a) the whole principal amount (after deduction of specific provisions) of the exposure should be reported in column A1 of the row for the exposure class and risk-weight applicable to the exposure; and

    (b) column A2 should be filled in as set out in paragraphs 29 and 30 below.

29. CRM treatment by substitution of risk-weights (applicable to collateral under the simple approach[4], guarantees and credit derivative contracts)

    (a) The amount reported in column A1 should be divided into the credit protection covered portion(s) and the ***credit protection uncovered portion***.

    (b) Each credit protection covered portion of the exposure should be reported in column A2 as follows—

        (i) if the exposure is not a past due exposure, it should be reported in the row for the exposure class and risk-weight applicable to the credit protection concerned. That is—

            (A) in the case of collateral, the credit protection covered portion should be allocated the risk-weight of the collateral (the risk-weight is subject to a floor of 20% unless otherwise stated in the BCR); or

            (B) in the case of a guarantee or credit derivative contract, the credit protection covered portion should be allocated the attributed risk-weight of the ***credit protection provider*** (or the risk-weight of 2% or 4% if the credit derivative contract falls within section 100(10) or 101(6A) of the BCR); or

        (ii) if the exposure is a past due exposure, it should be reported in Class XII (Past Due Exposures) and in the row for the risk-weight applicable to the credit protection.

[4] For past due exposures secured by collateral, the reporting AI should only use the simple approach to CRM treatment.

(c) The credit protection uncovered portion of the exposure should be reported in column A2 of the row for the exposure class and risk-weight applicable to the exposure.

(d) In the case of—

(i) RMLs granted for the purchase of flats under the Home Ownership Scheme, Private Sector Participation Scheme, Tenants Purchase Scheme and other similar schemes which are covered by guarantees issued by Hong Kong Housing Authority;

(ii) reverse mortgage loans granted under the Reverse Mortgage Programme of HKMC Insurance Limited; and

(iii) RMLs granted under Mortgage Insurance Programmes of HKMC Insurance Limited,

the credit protection uncovered portion, if any, of the RMLs should be reported in Class X and column A2 of item *19a*, *19b* or *19c* whichever is applicable. The credit protection covered portion of the RMLs in relation to the guarantee provided by Hong Kong Housing Authority or the insurance provided by HKMC Insurance Limited should be reported in Class II and column A2 of item *4* if the guarantee or insurance concerned meets all the criteria set out in section 98 of the BCR.

30. CRM treatment by reduction of principal amount of exposures (applicable to collateral under the ***comprehensive approach*** and on-balance sheet netting)

The net credit exposure calculated under section 87 or 94 of the BCR, as the case requires should be reported in the exposure class to which the on-balance sheet exposure belongs and in column A2 of the row for the risk-weight applicable to the on-balance sheet exposure. To avoid doubt, if the on-balance sheet exposure is a past due exposure subject to on-balance sheet netting, the AI should report the net credit exposure in column A2 of item *21h* in Class XII.

B.5 Reporting of Off-balance Sheet Exposures other than Default Risk Exposures – Columns A3 and A4 in Division A

31. Off-balance sheet exposures (except default risk exposures and credit exposures arising from unsegregated collateral posted)

(a) If an off-balance sheet exposure is not covered by any recognized CRM, the whole principal amount (net of specific provisions if applicable) of the exposure and its ***credit equivalent amount*** (CEA) should be reported respectively in column A3 and column A4 of the row for the exposure class and risk-weight applicable to the exposure.

(b) If an off-balance sheet exposure is covered fully or partially by recognized CRM—

(i) the whole principal amount (net of specific provisions if applicable) of the exposure should be reported in column A3 of the row for the exposure class and risk-weight applicable to the exposure; and

(ii) the CEA after CRM should be reported in column A4 as set out in paragraphs (c) or (d) below.

(c) CRM treatment by substitution of risk-weights

(i) The amount reported in column A3 should be divided into the credit protection covered and uncovered portions and each of these portions should be multiplied by the ***credit conversion factor*** (CCF) applicable to the exposure.

(ii) The CEA of each credit protection covered portion should be reported in column A4 in the same manner as set out in paragraph 29(b)(i) and (ii).

(iii) The CEA of the credit protection uncovered portion should be reported in column A4 of the row for the exposure class and risk-weight applicable to the exposure.

(d) Collateral under comprehensive approach

The net credit exposure calculated under section 88 of the BCR should be reported in the exposure class to which the off-balance sheet exposure belongs and in column A4 of the row for the risk-weight applicable to the off-balance sheet exposure.

32. Off-balance sheet exposures arising from unsegregated collateral posted by reporting AI

In the case of off-balance sheet exposures to which section 71(2) of the BCR applies—

(a) the whole principal amount (without deduction of any specific provisions) of the collateral should be reported in column A3; and

(b) the CEA of the exposure (net of specific provision, if applicable) (see section 71(2) to (4) of the BCR) should be reported in column A4.

Both the principal amount and the CEA should be reported in the row for the exposure class and risk-weight applicable to the person holding the collateral.

B.6 Reporting of Off-balance Sheet Exposures that are Default Risk Exposures – Columns A3 and A5 in Division A

33. For any derivative contracts or SFTs entered into by the reporting AI with a counterparty, the AI should report the amounts listed below in column A3 of the row for the exposure class and risk-weight applicable to the counterparty:

(a) in the case of derivative contracts—the gross sum of the stated notional amounts of the derivative contracts entered into with the counterparty;

(b) in the case of SFTs—

(i) the principal amounts of any securities sold or lent to the counterparty by the AI under the SFTs;

(ii) the principal amounts of any money paid or lent to the counterparty by the AI under the SFTs; and

(iii) the principal amounts of any securities or money provided to the counterparty as collateral by the AI under the SFTs.

34. For any default risk exposure that is calculated by using the ***SA-CCR approach*** or the ***IMM(CCR) approach***—

(a) if the exposure is not covered by any recognized CRM[5], the ***outstanding default risk exposure*** of the ***netting set*** (or the default risk exposure if the netting set contains SFTs only), net of specific provisions if applicable, should be reported in column A5 of the row for the exposure class and risk-weight applicable to the counterparty concerned;

(b) if—

(i) the exposure is covered fully or partially by recognized collateral and falls within section 78(1A)(b) of the BCR;

(ii) the exposure is covered fully or partially by a recognized guarantee or recognized credit derivative contract; or

(iii) the exposure falls within both subparagraphs (i) and (ii),

the reporting arrangements for column A5 are set out in paragraphs (c) and (d) below.

(c) CRM treatment by substitution of risk-weights

(i) the outstanding default risk exposure or default risk exposure, as the case may be, net of specific provisions if applicable, should be divided into the credit protection covered and uncovered portions;

(ii) each credit protection covered portion should be reported in column A5 of the row for the exposure class and risk-weight applicable to the credit protection concerned; and

(iii) the credit protection uncovered portion should be reported in column A5 of the row for the exposure class and risk-weight applicable to the counterparty concerned.

[5] In the case of SFTs, "recognized CRM" refers to recognized guarantees and recognized credit derivative contracts as securities or money received by the AI under the SFTs have already been taken into account in the calculations under the IMM(CCR) approach, they should not be taken into account again under Part 4 of the BCR. In the case of derivative contracts, "recognized CRM" refers to recognized collateral whose credit risk mitigation effect can be taken into account under section 78(1A)(b) of the BCR, recognized guarantees and recognized credit derivative contracts.

(d) Collateral under comprehensive approach

The net credit exposure calculated under section 89 of the BCR should be reported in the exposure class to which the counterparty concerned belongs and in column A5 of the row for the risk-weight applicable to the counterparty.

35. For any default risk exposure in respect of SFTs calculated under Division 2B of Part 6A of the BCR—

(a) if the exposure is not covered by any recognized CRM[6]—

(i) in the case where the exposure is calculated under section 226MJ of the BCR, the exposure and the recognized collateral received by the reporting AI under the SFT concerned should be reported in column A5 in the same manner as set out in paragraph 34(c) or (d);

(ii) in the case where the exposure is calculated under section 226MK or 226ML of the BCR, the exposure, net of specific provisions if applicable, should be reported in column A5 of the row for the exposure class and risk-weight applicable to the counterparty concerned;

(b) if the exposure is covered fully or partially by recognized CRM[7]—

(i) in the case where the exposure is calculated under section 226MJ of the BCR and the recognized collateral received under the SFT concerned is taken into account by using the simple approach, the credit protection uncovered portion, and the credit protection covered portions in respect of the recognized collateral and recognized CRM, should be reported in column A5 in the same manner as set out in paragraph 34(c);

(ii) in the case where the exposure is calculated under section 226MJ of the BCR and the recognized collateral received under the SFT concerned is taken into account by using the comprehensive approach—

(A) the net credit exposure calculated under section 88 of the BCR should be reported in column A5 in the same manner as set out in paragraph 34(d); and

(B) the credit protection covered portion in respect of the recognized CRM should be reported in column A5 in the same manner as set out in paragraph 34(c);

(iii) in the case where the exposure is calculated under section 226MK or 226ML of the BCR, the credit protection uncovered portion, and the credit protection covered portion in respect of the recognized CRM, should be reported in column A5 in the same manner as set out in paragraph 34(c).

36. If the reporting AI issues a CLN to cover a default risk exposure, the amount of the proceeds received from the issuance of the CLN should not be included in the calculation

[6] In the case of SFTs, "recognized CRM" refers to recognized guarantees and recognized credit derivative contracts.
[7] See footnote 6.

of the amount of the default risk exposure under Division 1A, 2 or 2B of Part 6A of the BCR. The AI may only take into account the CRM effect of the proceeds in the calculation of the RWA of the default risk exposure in accordance with section 101(8) of the BCR.

37. Annex IIIb-A contains a number of examples to illustrate the capital treatment and reporting arrangement of exposures covered by recognized CRM.

B.7 Reporting of Risk-weighted Amount – Column A7 in Division A

38. For all items in Division A, the RWA reported in column A7 is calculated by multiplying the sum of the amounts reported in columns A2, A4 and A5 by the risk-weight in column A6.

Section C: Reporting arrangements for Division B of Part IIIb

C.1 General Instructions

39. Unless otherwise stated in these completion instructions, the reporting AI is not required to report in Parts II, III and IV of Division B any derivative contract or SFT that is outside the scope of Divisions 1A, 2 and 2B of Part 6A of the BCR (please refer to the "Q&As on exposures to counterparty credit risk and central counterparties" for more information). Default risk exposures reported in columns B16, B25 and B35 should not be reduced by any ***CVA loss*** or specific provisions made. Outstanding default risk exposures in respect of derivative contracts and any specific provisions made for default risk exposures should be reported in column A5 in Division A of this Form.

40. Breakdown of CEAs and default risk exposures by exposure class in Division B should be consistent with the exposures classes into which the off-balance sheet exposures concerned are classified for the purposes of Division A.

C.2 Part I of Division B - Off-balance Sheet Exposures other than Default Risk Exposures

41. The reporting AI should classify each of its off-balance sheet exposures other than default risk exposures into the appropriate standard items listed in paragraph 42 and report the exposures in Part I of Division B of this Form.

42. CCFs for items *1* to *10* are set out in sections 71(1) and 73 of the BCR.

Item no.	Nature of item
1.	Direct credit substitutes
2.	***Transaction-related contingencies***
3.	Trade-related contingencies

4. Asset sales with recourse

5. Forward asset purchases

6. Partly paid-up shares and securities

7. ***Forward forward deposits placed***

This refers to a commitment of the reporting AI to place a forward forward deposit.

If the reporting AI has contracted to receive a forward forward deposit, failure to deliver by the counterparty will result in an unanticipated change in the AI's interest rate exposure and may involve a replacement cost. Such exposure should therefore be regarded as default risk exposures arising from ***interest rate contracts*** and reported in Part II or IV of Division B, as the case requires.

8. ***Note issuance and revolving underwriting facilities***

9a. to c. Other commitments

Included is the undrawn portion of any binding arrangements which obligate the reporting AI to provide funds or to incur off-balance sheet exposures (e.g. commitment to issue letters of credit or performance bonds) at some future dates. The latter does not include commitments to enter into derivative contracts.

A commitment is regarded as being created no later than the acceptance in writing by the customer of the facility offered.

In the case of an off-balance sheet exposure (exposure A) arising from a commitment the drawdown of which will give rise to another off-balance sheet exposure (exposure B) falling within any of items *1* to *8* and *10*, the CCF applicable to exposure A should be the lower of—

- the CCF applicable to exposure A based on the ***original maturity*** of the commitment and whether it can be cancelled at any time unconditionally; and
- the CCF applicable to exposure B.

If the commitment is in the form of a general banking facility consisting of 2 or more credit lines (including lines for entering into derivative contracts), the AI should assign a CCF to exposure A based on the original maturity of the commitment and whether the commitment can be unconditionally cancelled at any time.

9a. This item includes off-balance sheet exposures arising from commitments—

- which are unconditionally cancellable without prior notice by the reporting AI other than for "force majeure" reason; or
- which effectively provide for automatic cancellation due to deterioration in a borrower's creditworthiness.

This item also includes any revolving or undated/open-ended commitments, e.g. overdrafts or unused credit card lines, provided that they are subject to credit review at least annually and can be unconditionally cancelled at any time.

9b. This item captures off-balance sheet exposures arising from—

- commitments with an original maturity of up to one year; or
- commitments the drawdown of which would give rise to off-balance sheet exposures subject to a CCF of 20%.

9c. This item captures off-balance sheet exposures arising from—

- commitments with an original maturity of over one year; or
- commitments the drawdown of which would give rise to off-balance sheet exposures subject to a CCF of 50%.

10. Off-balance sheet exposures not specified above

10a. This item captures off-balance sheet exposures that do not fall within items *1* to *9* and that are subject to a CCF of 100%. Such exposures include, but not limited to—

- off-balance sheet exposures to the credit risk of the underlying assets of cash-settled derivative contracts (e.g. equity forward contracts) booked in the reporting AI's banking book; and
- credit exposures to persons holding unsegregated collateral posted by the reporting AI (other than collateral posted that is included in the default risk exposures reported in Part II, III or IV of Division B of this Form and Form MA(BS)3(IIIe)) (see section 71(2) of the BCR).

10b. to d. These items capture off-balance sheet exposures that do not fall within items *1* to *9* and that are subject to a CCF specified in Part 2 of Schedule 1 to the BCR. For other off-balance sheet exposures not mentioned above, the reporting AI should consult the HKMA on the reporting arrangements.

43. The reporting AI should report each of its off-balance sheet exposures as follows:

(a) report in column B2 the principal amount (net of specific provisions if applicable) of the exposure;

(b) report in column B3 the CEA of the exposure (i.e. the product of the amount reported in column B2 and the applicable CCF specified in column B1); and

(c) report the CEA of the exposure in one of columns B4 to B12[8] if the exposure falls within any one of the following exposure classes—

(i) Class I Sovereign exposures;

(ii) Class II Public sector entity (PSE) exposures;

(iii) Class III Multilateral development bank (MDB) exposures;

(iv) Class IV Bank exposures;

(v) Class V Securities firm exposures;

(vi) Class VI Corporate exposures;

(vii) Class VII Collective investment scheme exposures[9];

(viii) Class IX Regulatory retail exposures; and

(ix) Class X Residential mortgage loans.

C.3 Part II of Division B - Default Risk Exposures in respect of Derivative Contracts[10] (SA-CCR Approach)

44. If the reporting AI uses the SA-CCR approach to calculate default risk exposures, it should report the exposures so calculated in the appropriate items in Part II of Division B (please see Annex IIIa & IIIb-A for numerical examples).

Item no.	Nature of item
11.	Unmargined contracts not covered by recognized netting

This item captures derivative contracts—

- that fall within the definition of ***unmargined contract*** in section 226BA of the BCR; and
- that are not covered by recognized netting.

The following contracts should also be reported in this item—

[8] Only breakdown by major exposure classes is required. As a result, for each row, the total amount reported in column B3 would be greater than or equal to the sum of the total amounts reported in columns B4 to B12.

[9] Notwithstanding that for the purposes of Division A of this Form equity investments in collective investment schemes (CIS exposures) are reported in Class XI (Other exposures which are not past due exposures) instead of Class VII, the CEAs of off-balance sheet CIS exposures must be reported in column B10 of Part I of Division B.

[10] Derivative contracts include long settlement transactions that fall within paragraph (c) or (d) of the definition of "derivative contract" in section 2(1) of the BCR. For example, a long settlement transaction that is a FX spot transaction must be reported as an exchange rate contract.

- contracts that fall within section 226BH(2) or (4) of the BCR; and
- contracts that have been removed from the netting sets concerned under section 226BH(3)(b) or (5) of the BCR.

12. Margined contracts not covered by recognized netting

This item captures derivative contracts—

- that fall within the definition of ***margined contract*** in section 226BA of the BCR; and
- that are not covered by recognized netting.

13. Contracts covered by recognized netting

This item captures derivative contracts (whether they are margined contracts or not) covered by recognized netting.

14. Out of the amounts reported in items 11, 12 and 13, the amounts for offsetting or CCP-related transactions with clearing members or clearing clients

This item is for reporting the amounts captured under items *11* to *13* that are related to ***offsetting transactions*** or ***CCP-related transactions*** entered into by the reporting AI with ***clearing members*** or ***clearing clients*** (see Annex IIIe-A and paragraph 5 of the completion instructions for Form MA(BS)3(IIIe) for more information on exposures related to centrally cleared transactions that should be reported in this Form).

45. For all items in Part II of Division B—

(a) if a netting set contains a credit derivative contract that falls within section 226BI of the BCR and the reporting AI has—

(i) treated the default risk exposure of such credit derivative contract as zero; and

(ii) removed such credit derivative contract from the netting set (i.e. the default risk exposure of the netting set is calculated as if the credit derivative contract did not exist),

the reporting AI is not required to report such credit derivative contract in Part II of Division B[11];

(b) the amount reported in column B13 is the gross sum of the stated notional amounts of the relevant derivative contracts.

[11] This is to avoid double counting as the notional amount of the credit derivative contracts is somehow reflected in the amount reported in Division A (e.g. credit protection covered portion) or Part I of Division B (e.g. direct credit substitute).

46. For item *11*—

(a) report in column B14 the replacement cost of a derivative contract calculated in accordance with Division 1A of Part 6A of the BCR by using the formula applicable to the contract. In the case of a sold option whose default risk exposure is set to zero under 226BH(2) or (3) of the BCR, the replacement cost of the option may be reported as zero;

(b) report in column B15 the potential future exposure of the derivative contract calculated in accordance with Division 1A of Part 6A of the BCR by using the formulas applicable to the asset class into which the contract falls. In the case of a sold option whose default risk exposure is set to zero under section 226BH(2) or (3) of the BCR, the potential future exposure of the option may be reported as zero;

(c) report in column B16 the default risk exposure of the derivative contract (i.e. the sum of the amounts reported in columns B14 and B15 multiplied by 1.4); and

(d) report the default risk exposure of the derivative contract in one of columns B17 to B23[12] if—

(i) the counterparty to the contract is a sovereign, PSE, MDB, bank, securities firm or corporate; or

(ii) the default risk exposure is eligible for being treated as a regulatory retail exposure.

47. The reporting arrangements mentioned in paragraph 46 also apply to item *12*. Also—

(a) if the default risk exposure calculated for a margined contract on an unmargined basis is regarded as the default risk exposure of the contract, the default risk exposure calculated on an unmargined basis should be reported in column B16 (see section 226BH(1) of the BCR);

(b) if more than one derivative contract is covered by a single ***variation margin agreement***—

(i) the stated notional amount of each of the derivative contracts should be reported in column B13 of item *12a, 12b, 12c, 12d or 12e*, as the case requires;

(ii) there is no need to report the replacement cost, potential future exposure and default risk exposure calculated for these contracts by type of contract. The amounts calculated under sections 226BE(3), 226BS and 226BE(2) of the BCR should be reported in columns B14, B15 and B16 of item *12f* respectively.

48. For item *13*, the replacement cost, potential future exposure and default risk exposure of a netting set or a group of netting sets, as the case may be, should be reported in the row "SUBTOTAL" of columns B14, B15 and B16 respectively. The reporting arrangements

[12] Only breakdown by major exposure classes is required. As a result, for each row, the total amount reported in column B16 would be greater than or equal to the sum of the total amounts reported in columns B17 to B23.

mentioned in paragraphs 46(c) and 46(d) and paragraph 47(a) apply to the netting set or the group of netting sets as they apply to a single derivative contract.

C.4 Part III of Division B - Default Risk Exposures in respect of SFTs (Non-IMM(CCR) Approach)

49. If the reporting AI calculates default risk exposures in respect of SFTs under Division 2B of Part 6A of the BCR, it should report the exposures so calculated in the appropriate items in Part III of Division B as follows:

(a) The principal amount of the securities sold or lent, or the money paid or lent, or the securities or money provided as collateral, by the reporting AI under an SFT should be reported in column B24 of item *15a* or *15b*, as the case requires.

(b) Under item *15a,* each SFT that is not ***nettable***[13] should be reported as follows—

(i) report in column B25 the default risk exposure of the SFT calculated under section 226MJ of the BCR; and

(ii) report the default risk exposure in one of columns B26 to B31[14] if the counterparty to the SFT is a sovereign, PSE, MDB, bank, securities firm or corporate.

(c) Under item *15b*, nettable SFTs with a counterparty should be reported as follows—

(i) report in column B25 the default risk exposure of the nettable SFTs calculated under section 226MK or 226ML of the BCR; and

(ii) report the default risk exposure in one of columns B26 to B31[15] if the counterparty to the nettable SFTs is a sovereign, PSE, MDB, bank, securities firm or corporate.

(d) Item *15c* is for reporting the amounts captured under items *15a* and *15b* that are related to offsetting transactions or CCP-related transactions entered into by the reporting AI with clearing members or clearing clients (see Annex IIIe-A and paragraph 5 of the completion instructions for Form MA(BS)3IIIe for more information on exposures related to centrally cleared transactions that should be reported in this Form).

C.5 Part IV of Division B - Default Risk Exposures (IMM(CCR) Approach)

50. If the reporting AI uses the IMM(CCR) approach to calculate default risk exposures, it should report the exposures so calculated in the appropriate items in Part IV of Division B.

[13] For the purposes of this Form, an SFT is regarded as not nettable if the SFT is covered by recognized netting but the reporting AI uses the simple approach to take into account the CRM effect of the recognized collateral received under the SFT.

[14] Only breakdown by major exposure classes is required. As a result, for each row, the total amount reported in column B25 would be greater than or equal to the sum of the total amounts reported in columns B26 to B31.

[15] See footnote 14.

Item no.	Nature of item
16.	Portfolio-level risk-weighted amount based on current market data The portfolio-level RWA calculated under section 226D(1)(a) and (2)(a) of the BCR should be reported in this item.
17.	Portfolio-level risk-weighted amount based on stress calibration The portfolio-level RWA calculated under section 226D(1)(b) and (2)(b) of the BCR should be reported in this item. Only the higher of item *16* and item *17* will be used in the calculation of the total RWA for credit risk under the STC approach.
18. to 21.	Items *18* to *21* capture the breakdown of the default risk exposures included in the portfolio-level RWA that will be used in the capital adequacy ratio calculation. In other words, if the portfolio-level RWA calculated using current market data is larger, the default risk exposures reported in items *18* to *21* should be those used in calculating the RWA reported in item *16*.
18.	Netting sets (not subject to recognized netting) This item captures transactions— • that are not subject to recognized netting; or • that are required to be treated as a separate netting set under section 226J(1) of the BCR. If the reporting AI's ***IMM(CCR) approval*** covers one or more than one of the following categories of transactions: • derivative contracts (excluding ***long settlement transactions*** (LSTs)); • SFTs (excluding LSTs); and • LSTs, the AI should report each of its transactions in item *18a*, *18b* or *18c* based on the category within which the transaction falls.
19.	Netting sets (subject to valid bilateral netting agreements) This item captures transactions— • that are subject to ***valid bilateral netting agreements***; and • that are not required to be treated as a separate netting set under section 226J(1) of the BCR.

Derivative contracts and SFTs covered by the reporting AI's IMM(CCR) approval must be reported in items *19a* and *19b* respectively. The amounts reported in these two items will include derivative contracts and SFTs that are LSTs unless these LSTs are not covered by the IMM(CCR) approval.

If the reporting AI's IMM(CCR) approval only covers LSTs, the AI should report the LSTs in item *19c*.

20. Netting sets (subject to valid cross-product netting agreements)

This item captures transactions—

- that are subject to ***valid cross-product netting agreements***; and
- that are not required to be treated as a separate netting set under section 226J(1) of the BCR.

LSTs are included unless the IMM(CCR) approval of the reporting AI does not cover LSTs.

21. Out of the amounts reported in items 18, 19 and 20, the amounts for offsetting or CCP-related transactions with clearing members or clearing clients

This item is for reporting the amounts captured under items *18* to *20* that are related to offsetting transactions or CCP-related transactions entered into by the reporting AI with clearing members or clearing clients (see Annex IIIe-A and paragraph 5 of the completion instructions for Form MA(BS)3(IIIe) for more information on exposures related to centrally cleared transactions that should be reported in this Form).

51. The reporting AI should report the default risk exposures calculated under the IMM(CCR) approach in Part IV of Division B of this Form as follows:

(a) report in column B33 of items *18a*, *18c*, *19a*, *19c*, *20a* and *21a* the gross sum of the stated notional amounts of the derivative contracts and LSTs concerned;

(b) report in column B34 of items *18b*, *18c*, *19b*, *19c*, *20b*, *20c* and *21a* the principal amounts of the securities sold, lent or delivered, or the money paid, by the AI to the counterparties under the SFTs and LSTs concerned;

(c) report in column B35 of items *18a* to *19c*, *20* and *21a* the default risk exposures of the netting sets concerned calculated under section 226E of the BCR. In the case of item *18*, the netting set only contains one transaction; and

(d) report the default risk exposure of each of the netting sets reported in column B35 in one of columns B36 to B41[16] if the counterparty to the netting set is a sovereign, PSE, MDB, bank, securities firm or corporate.

52. If a netting set contains a credit derivative contract that falls within section 226I of the BCR and the reporting AI has—

(a) treated the default risk exposure of such credit derivative contract as zero; and

(b) removed such credit derivative contract from the netting set (i.e. the default risk exposure of the netting set is calculated as if the credit derivative contract did not exist),

the reporting AI is not required to report such credit derivative contract in Part IV of Division B of this Form[17].

C.6 Multiple Credit Risk Mitigation

53. If an exposure is covered by two or more forms of recognized CRM (e.g. with both collateral and guarantee partially covering the exposure), the treatments for the recognized CRM are set out in section 102(1) and (2) of the BCR. The calculation of the RWA of each portion will be done separately.

54. If an exposure is covered by credit protection provided by a single credit protection provider but the credit protection has different maturities, the treatment for the credit protection is set out in section 102(3) of the BCR. The RWA of each portion should be calculated separately.

55. Unless otherwise stated in the BCR, the reporting AI may determine, at its discretion, how recognized CRM that is shared by multiple exposures are allocated to each of the exposures for the purpose of RWA calculation.

C.7 Maturity Mismatches

56. If a credit protection in the form of collateral, guarantee, credit derivative contract or on-balance sheet netting has maturity mismatch referred to in section 103(1) of the BCR, a reporting AI should determine whether the credit protection can be taken into account in the RWA calculation (see section 103(2) of the BCR for details) and whether the value of the credit protection should be adjusted (see Formula 12 in section 103(1) of the BCR). Adjustment to the value of credit protection does not apply to collateral without a finite maturity (e.g. equities). The maturity of a credit protection should be determined in accordance with section 103(3) and (4) of the BCR.

Hong Kong Monetary Authority
June 2021

[16] Only breakdown by major exposure classes is required. As a result, for each row, the total amount reported in column B35 would be greater than or equal to the sum of the total amounts reported in columns B36 to B41.
[17] See footnote 11.

Examples of calculation of default risk exposure under the SA-CCR approach

- The counterparty of the derivative contracts in each of the cases below is an unrated corporate and the AI concerned has not made use of any recognized guarantee or recognized credit derivative contract to mitigate the default risk exposure to the corporate arising from these contracts.

Case 1: Unmargined contracts not covered by recognized netting

In this case, since the derivative contracts entered into by the AI with the corporate are not covered by recognized netting, each contract forms a single netting set. Also, neither the AI nor the counterparty has posted collateral for the contracts.

Netting set A

Contract	**Type of contract**	**Base currency**	**Notional** (HK$'000)	**Residual maturity** (in year)	**Pay**	**Receive**	**Market value** (HK$'000)
A1	Interest rate swap	HKD	10,000	0.25	Fixed	Floating	10

Netting set B

Contract	**Type of contract**	**Base currency**	**Notional** (HK$'000)	**Residual maturity** (in year)	**Pay**	**Receive**	**Market value** (HK$'000)
A2	Interest rate swap	HKD	10,000	5	Floating	Fixed	-25

Netting set C

Contract	**Type of contract**	**Base currency**	**Notional** (HK$'000)	**Residual maturity** (in year)	**Reference entity**	**ECAI issuer rating of reference entity**	**Position of the AI**	**Market value** (HK$'000)
A3	Credit default swap	HKD	10,000	2	Firm X	BBB	Protection seller	50

I. Calculation of default risk exposure

Step 1: Calculation of replacement cost (*RC*) at the level of netting set

$$RC = max \ (V - C; 0)$$

$RC_{netting \ set \ A} = \max(10 - 0; 0) = 10$

$RC_{netting \ set \ B} = \max(-25 - 0; 0) = 0$

$RC_{netting \ set \ C} = \max(50 - 0; 0) = 50$

Step 2: Calculation of add-on at the level of netting set

Step 2.1: Calculation of contract-level adjusted notional amount (d_i)

Contract	**Hedging Set**	S_i	E_i	**Notional amount** (HK$'000) (a)	**Supervisory duration (SD_i)** (b)	**Adjusted notional amount (d_i)** (HK$'000) = (a) × (b)
A1	HKD	0	0.25	10,000	0.248	2,484
A2	HKD	0	5	10,000	4.424	44,240
A3	NA	0	2	10,000	1.903	19,033

The supervisory duration of contract *i*, which is subject to a floor of 10 business days, is calculated as follows:

$$SD_i = \frac{exp(-0.05 * S_i) - exp(-0.05 * E_i)}{0.05}$$

$SD_{A1} = \frac{exp(-0.05*0) - exp(-0.05*0.25)}{0.05} = 0.248$

$SD_{A2} = \frac{exp(-0.05*0) - exp(-0.05*5)}{0.05} = 4.424$

$SD_{A3} = \frac{exp(-0.05*0) - exp(-0.05*2)}{0.05} = 1.903$

Step 2.2: Calculation of effective notional amount (D_i) at the level of hedging set

For unmargined contract *i* not subject to recognized netting, the effective notional amount of a hedging set is equivalent to the effective notional amount of contract *i* and is given by the following formula:

$$D_i = \delta_i * d_i * MF_i^{(unmargined)}$$

where $MF_i^{(unmargined)}$ is the maturity factor applicable to contract *i* given by the following formula (M_i is subject to a floor of 10 business days):

$$MF_i^{(unmargined)} = \sqrt{\frac{min\{M_i; 1 \ year\}}{1 \ year}}$$

$$MF_{A1}^{(unmargined)} = \sqrt{\frac{min\{0.25; 1\}}{1}} = 0.5$$

$$MF_{A2}^{(unmargined)} = \sqrt{\frac{min\{5; 1\}}{1}} = 1$$

$$MF_{A3}^{(unmargined)} = \sqrt{\frac{min\{2; 1\}}{1}} = 1$$

Contract	**Residual maturity (M_i)**	**Supervisory delta (δ_i)** (a)	**Adjusted notional amount (d_i)** (HK$'000) (b)	**Maturity factor (MF_i)** (c)	**Effective notional amount (D_i)** (HK$'000) = (a) × (b) × (c)
A1	0.25	+1	2,484	0.5	1,242
A2	5	-1	44,240	1	-44,240
A3	2	-1	19,033	1	-19,033

Step 2.3: Calculation of add-on at the level of netting set

For an interest rate[1] or credit-related[2] derivative contract not covered by recognized netting, the add-on for the netting set concerned is calculated as follows:

$$AddOn = SF * |D_i|$$

Netting set	**Contract**	**Absolute value of effective notional amount ($|D_i|$)** (HK$'000) (a)	**Supervisory factor (*SF*)** (b)	**Add-on** (HK$'000) = (a) × (b)
A	A1	1,242	0.5%	6.21
B	A2	44,240	0.5%	221.20
C	A3	19,033	0.54%	102.78

Step 3: Calculation of potential future exposure (PFE) and default risk exposure at the level of netting set

$$PFE \quad = multiplier * AddOn$$

$$Default\ \ Risk\ \ Exposure \quad = alpha * (RC \quad + PFE \quad)$$

1 For a netting set that contains only one contract, if the contract is an interest rate contract, Formulas 23AS and 23AT in §226BU(2) of the BCR should result in the same effective notional amount for the contract. That is-

$$Effective\ \ Notional^{(IR)} = \ |D^{(MB)}|$$

where $D^{(MB)}$ is the effective notional amount for the maturity bucket in which the contract falls. However, since there is only one maturity bucket in the netting set, the actual calculation does not require allocation of the contract into a maturity bucket.

2 For a netting set that contains only one contract, if the contract is a credit-related derivative contract, Formula 23AQ in §226BT(3) of the BCR will be reduced to –

$$AddOn^{(credit)} = [AddOn(Entity_k)^2]^{0.5} \ = AddOn(Entity_k) = SF_k^{(Credit)} * Effective\ \ Notional_k^{(Credit)}$$

Netting set	**RC** (HK$'000) (a)	**Multiplier** (b)	**Add-on** (HK$'000) (c)	**PFE** (HK$'000) (d) = (b) × (c)	**Default risk exposure** (HK$'000) =1.4*((a) + (d))
A	10	1	6.21	6.21	22.69
B	0	0.945	221.20	209.03	292.65
C	50	1	102.78	102.78	213.89
				Total	**529.23**

The multiplier applied to each of the above netting sets is calculated as follows:

$$multiplier = \min\left\{1; Floor + (1 - Floor) * exp\left(\frac{V - C}{2 * (1 - Floor) * AddOn}\right)\right\}$$

For both netting sets A and C, since the current market value of the netting set is positive and no net collateral is held by the AI, the multiplier is equal to 1.

For netting set B−

$$multiplier_{netting\ set\ B} = \min\left\{1; 5\% + (1 - 5\%) * exp\left(\frac{-25}{2*(1-5\%)*221.2}\right)\right\} = 0.945$$

II. Reporting arrangement

Division A - RWA

a. Part IIIa

(in HK$'000)

Item	Nature of item	On-balance sheet exposures: Principal Amount (A1)	Off-balance sheet exposures: Principal Amount / Notional Amount (A2)	Off-balance sheet exposures: Credit Equivalent Amount (A3)	Off-balance sheet exposures: Default Risk Exposure (A4)	Risk-weight % (A5)	Risk-weighted Amount (A6) = (A1+A3+A4) x A5
Class VIII Other Exposures							
29a.	Exposures to corporates or individuals not elsewhere reported		30,000		529	100	529
29b.	Holdings of equity or other forms of capital instruments issued by, and non-capital LAC liabilities of, financial sector entities subject to 100% risk-weight					100	
29h.	Other exposures not elsewhere reported						
29h(1).							
29h(2).							
29h(3).							
29h(4).							
	SUBTOTAL		**30,000**		**529**		**529**

b. Part IIIb

(in HK$'000)

Item	Nature of item	On-balance sheet exposures: Principal Amount (A1)	On-balance sheet exposures: Principal Amount after CRM (A2)	Off-balance sheet exposures: Principal Amount / Notional Amount (A3)	Off-balance sheet exposures: Credit Equivalent Amount after CRM (A4)	Off-balance sheet exposures: Default Risk Exposure after CRM (A5)	Risk-weight % (A6)	Risk-weighted Amount (A7) = (A2+A4+A5) x A6
Class VI	**Corporate Exposures**							
9a.	Risk-weight 20%						20	
9b.	Risk-weight 30%						30	
9c.	Risk-weight 50%						50	
9d.	Risk-weight 100%			30,000		529	100	529
9e.	Risk-weight 150%						150	
	SUBTOTAL			**30,000**		**529**		**529**

Division B – Default risk exposure amount

a. Part IIIa Division B - III

(in HK$'000)

Item	Nature of item						
18.	Unmargined contracts not covered by recognized netting						
						Out of which:	
	Type of Contract	Total Notional Amount (B17)	Total Replacement Cost (B18)	Total Potential Future Exposure (B19)	Total Default Risk Exposure (B20)	Sovereign exposures (B21)	Exposures to corporates or individuals (B25)
18a.	Interest rate contracts	20,000	10	215	315		315
18b.	Exchange rate contracts						
18c.	Credit-related derivative contracts	10,000	50	103	214		214
18d.	Equity-related derivative contracts						
18e.	Commodity-related derivative contracts						
	SUBTOTAL	**30,000**	**60**	**318**	**529**		**529**

b. Part IIIb Division B - II

(in HK$'000)

Item	Nature of item							
11.	Unmargined contracts not covered by recognized netting							
						Out of which:		
	Type of Contract	Total Notional Amount (B13)	Total Replacement Cost (B14)	Total Potential Future Exposure (B15)	Total Default Risk Exposure (B16)	Sovereign exposures (B17)	Corporate exposures (B22)	Regulatory retail exposures (B23)
11a.	Interest rate contracts	20,000	10	215	315		315	
11b.	Exchange rate contracts							
11c.	Credit-related derivative contracts	10,000	50	103	214		214	
11d.	Equity-related derivative contracts							
11e.	Commodity-related derivative contracts							
	SUBTOTAL	**30,000**	**60**	**318**	**529**		**529**	

Case 2: Margined contracts not covered by recognized netting

In this case, the netting sets include netting sets A and B in Case 1 and the following netting sets:

Netting set D

Contract	Type of contract	Entity	Number of units referenced by the contract	Strike (HK$)	Residual maturity (in year)	Current price of underlying (HK$)	Market value (HK$'000)
A4	Bought equity call option (European style)	Firm B	1,000	245	0.25	234	11

Netting set E

Contract	Type of contract	Notional (US$'000)	Contract rate	Residual maturity (in year)	Market value (HK$'000)
A5	Long FX forward (USD/CNH)	1,000	6.6248	0.4	16

The four netting sets are subject to the same margin agreement with the following details:

(in HK$'000)

Margining frequency	Threshold	Min. Transfer Amount	Independent Amount	Haircut value of net collateral held by the AI
daily	0	5	450	500

I. Calculation of default risk exposure

Step 1: Calculation of replacement cost (RC) of netting sets covered by margin agreement MA

$$RC_{MA} = max\left\{\sum_{NS\in MA} max\{V_{NS}; 0\} - max\{C_{MA}; 0\}; 0\right\}$$

$$+ max\left\{\sum_{NS\in MA} min\{V_{NS}; 0\} - min\{C_{MA}; 0\}; 0\right\}$$

Contract	max{V_{NS}; 0}	min{V_{NS}; 0}
A1	10	0
A2	0	-25
A4	11	0
A5	16	0
Total	**37**	**-25**

$= \max\{37 - \max\{500; 0\}; 0\} + \max\{-25 - \min\{500; 0\}; 0\}$

= max (37 - 500; 0) + max (-25; 0)

= 0

<u>Step 2: Calculation of add-on at the level of netting set</u>

Step 2.1: Calculation of contract-level adjusted notional amount (d_i)

Contract	**Hedging Set**	**USD leg** (HK$'000)	**CNH leg** (HK$'000)	**Number of units referenced by the contract**	**Current price of one unit of the underlying assets** (HK$)	**Adjusted notional amount (d_i)** (HK$'000)
A4	Firm B	NA	NA	1,000	234	234
A5	USD/CNH	7,774	7,881	NA	NA	7,881

Step 2.2: Calculation of effective notional amount (D_i) at the level of hedging set

Contract	**Residual maturity (M_i)**	**Supervisory delta (δ_i)** (a)	**Adjusted notional amount (d_i)** (HK$'000) (b)	**Maturity factor (MF_i)** (c)	**Effective notional amount (D_i)** (HK$'000) = (a) × (b) × (c)
A4	0.25	+0.588	234	0.5000	69
A5	0.40	+1	7,881	0.6325	4,984

The supervisory delta adjustment of Contract A4 is calculated in accordance with §226BZB(2) and (3) of the BCR. Spot price of the underlying equity is used in the calculation for illustrative purposes.

$$\delta_{A4} = +N\left(\frac{In\left(\frac{P}{K}\right) + 0.5 \cdot \sigma^2 \cdot T}{\sigma \cdot \sqrt{T}}\right)$$

$$\delta_{A4} = +N\left(\frac{In\left(\frac{234}{245}\right) + 0.5 \cdot 120\%^2 \cdot 0.25}{120\% \cdot \sqrt{0.25}}\right)$$

= +0.588

As there are multiple netting sets covered by the same variation margin agreement, the potential future exposure of each of Contract A4 and Contract A5 must be calculated in a manner as if the contracts were unmargined contracts (see §226BS of the BCR). Accordingly, the maturity factor of each of the contracts is calculated by using the formula for unmargined contracts.

$$MF_i^{(unmargined)} = \sqrt{\frac{min\{M_i; 1 \ \ year\}}{1 \ \ year}}$$

$$MF_{A4}^{(unmargined)} = \sqrt{\frac{min\{0.25; 1\}}{1}} = 0.5$$

$$MF_{A5}^{(unmargined)} = \sqrt{\frac{min\{0.4; 1\}}{1}} = 0.6325$$

Step 2.3: Calculation of add-on at the level of netting set

Contract	**Effective notional amount (D_i)** (HK$'000) (a)	**Supervisory factor (*SF*)** (b)	**Add-on**[3] (HK$'000) = (a) × (b)
A4	69	32%	22.03
A5	4,984	4%	199.36

[3] See footnote 2 above.

Step 3: Calculation of potential future exposure (PFE) of netting sets covered by margin agreement MA

Step 3.1: Calculation of multiplier of each netting set

As the same collateral is shared by four netting sets and the AI in this example is a net receiver of collateral (C>0), netting sets with positive market values must first be allocated collateral up to the amount of those market values. Only after all positive market values have been compensated may surplus collateral be attributed freely among all netting sets. Also, the allocated parts must add up to the total collateral available for the margin agreement. Apart from these limitations, AIs may allocate available collateral at their discretion. The following table shows the multipliers calculated by using one of the possible collateral allocations.

Netting set	**Market value** (HK$'000)	**Collateral allocated*** (HK$'000)	**Multiplier**
A	10	22.65	0.375
B	-25	0	0.945
D	11	55.90	0.375
E	16	421.44	0.376

*The allocation is for illustrative purpose only and does not represent any preference of the HKMA.

From Case 1, the multiplier of netting set B is 0.945. The multipliers of other netting sets are calculated as follows:

$$multiplier_{netting\ set\ A} = \min\left\{1; 5\% + (1-5\%) * exp\left(\frac{10-22.65}{2*(1-5\%)*6.21}\right)\right\} = 0.375$$

$$multiplier_{netting\ set\ D} = \min\left\{1; 5\% + (1-5\%) * exp\left(\frac{11-55.90}{2*(1-5\%)*22.03}\right)\right\} = 0.375$$

$$multiplier_{netting\ set\ E} = \min\left\{1; 5\% + (1-5\%) * exp\left(\frac{16-421.44}{2*(1-5\%)*199.36}\right)\right\} = 0.376$$

Step 3.2: Calculation of PFE of each netting set on unmargined basis

Netting set	**AddOn** (HK$'000) (a)	**Multiplier** (b)	**PFE (unmargined)** (HK$'000) = (a)×(b)
A	6.21	0.375	2.33

Netting set	AddOn (HK$'000) (a)	Multiplier (b)	PFE (unmargined) (HK$'000) = (a)×(b)
B	221.20	0.945	209.06
D	22.03	0.375	8.26
E	199.36	0.376	74.91
		Total	**294.56**

$$PFE_{MA} = \sum_{NS \in MA} PFE_{NS}^{(unmargined)}$$

= 294.56

Step 4: Calculation of default risk exposure of netting sets covered by margin agreement MA

$$Default\ \ risk\ \ exposure_{MA} = alpha * (RC_{MA} + PFE_{MA}) = 1.4 * (0 + 294.56) = 412$$

II. Reporting arrangement

Division A - RWA

a. Part IIIa

(in HK$'000)

Item	Nature of item	On-balance sheet exposures: Principal Amount (A1)	Off-balance sheet exposures: Principal Amount / Notional Amount (A2)	Off-balance sheet exposures: Credit Equivalent Amount (A3)	Off-balance sheet exposures: Default Risk Exposure (A4)	Risk-weight % (A5)	Risk-weighted Amount (A6) = (A1+A3+A4) x A5
Class VIII Other Exposures							
29a.	Exposures to corporates or individuals not elsewhere reported		28,008		412	100	412
29b.	Holdings of equity or other forms of capital instruments issued by, and non-capital LAC liabilities of, financial sector entities subject to 100% risk-weight					100	
29h.	Other exposures not elsewhere reported						
29h(1).							
29h(2).							
29h(3).							
29h(4).							
	SUBTOTAL		28,008		412		412

b. Part IIIb

(in HK$'000)

Item	Nature of item	On-balance sheet exposures: Principal Amount (A1)	On-balance sheet exposures: Principal Amount after CRM (A2)	Off-balance sheet exposures: Principal Amount / Notional Amount (A3)	Off-balance sheet exposures: Credit Equivalent Amount after CRM (A4)	Off-balance sheet exposures: Default Risk Exposure after CRM (A5)	Risk-weight % (A6)	Risk-weighted Amount (A7) = (A2+A4+A5) x A6
Class VI	**Corporate Exposures**							
9a.	Risk-weight 20%						20	
9b.	Risk-weight 30%						30	
9c.	Risk-weight 50%						50	
9d.	Risk-weight 100%			28,008		412	100	412
9e.	Risk-weight 150%						150	
	SUBTOTAL			**28,008**		**412**		**412**

Division B – Default risk exposure amount

In this example, the stated notional amount of the FX forward contract is USD1,000. The notional amount reported in the CAR return is the HKD equivalent of USD1,000, instead of the adjusted notional amount of the contract.

a. Part IIIa Division B – III

(in HK$'000)

Item	Nature of item	Total Notional Amount (B17)	Total Replacement Cost (B18)	Total Potential Future Exposure (B19)	Total Default Risk Exposure (B20)	Out of which: Sovereign exposures (B21)	Out of which: Exposures to corporates or individuals (B25)
19.	Margined contracts not covered by recognized netting						
	Type of Contract						
19a.	Interest rate contracts	20,000					
19b.	Exchange rate contracts	7,774					
19c.	Credit-related derivative contracts						
19d.	Equity-related derivative contracts	234					
19e.	Commodity-related derivative contracts						
19f.	Multiple netting sets covered by single variation margin agreement		0	294	412		412
	SUBTOTAL	**28,008**	**0**	**294**	**412**		**412**

b. Part IIIb Division B - II

(in HK$'000)

Item	Nature of item							
12.	Margined contracts not covered by recognized netting							
						Out of which:		
	Type of Contract	Total Notional Amount (B13)	Total Replacement Cost (B14)	Total Potential Future Exposure (B15)	Total Default Risk Exposure (B16)	Sovereign exposures (B17)	Corporate exposures (B22)	Regulatory retail exposures (B23)
12a.	Interest rate contracts	20,000						
12b.	Exchange rate contracts	7,774						
12c.	Credit-related derivative contracts							
12d.	Equity-related derivative contracts	234						
12e.	Commodity-related derivative contracts							
12f.	Multiple netting sets covered by single variation margin agreement		0	294	412		412	
	SUBTOTAL	**28,008**	**0**	**294**	**412**		**412**	

Case 3: Unmargined contracts covered by recognized netting

In this case, the contracts involved are the same as contracts A1, A2 and A3 in Case 1, except that the three contracts are covered by recognized netting and therefore fall within the same netting set. Also, neither the AI nor the counterparty has posted collateral for the contracts.

I. Calculation of default risk exposure

Step 1: Calculation of replacement cost (RC) at the level of netting set

$$RC = max \ \ (V - C; 0) = max \ \ (10 - 25 + 50; 0) = 35$$

Step 2: Calculation of add-on at the level of netting set

Step 2.1: Calculation of effective notional amount (D_i) at the level of hedging set

From Case 1, we have the following information on each of the derivative contracts:

Contract	**Maturity bucket**	**Residual maturity (M_i)**	**Supervisory delta (δ_i)** (a)	**Adjusted notional amount (d_i)** (HK\$'000) (b)	**Maturity factor (MF_i)** (c)	**Effective notional amount (D_i)** (HK\$'000) = (a) × (b) × (c)
A1	1	0.25	+1	2,484	0.5	1,242
A2	2	5	-1	44,240	1	-44,240
A3	NA	2	-1	19,033	1	-19,033

The effective notional amount of the hedging set that contains contracts A1 and A2 is calculated by using Formula 23AS in §226BU(2) of the BCR as follows:

$$Effective \ \ Notional_{hedging \ \ set} = [(D_{A1})^2 + (D_{A2})^2 + 1.4 \cdot D_{A1} \cdot D_{A2}]^{0.5}$$

$$= \ [(1{,}242)^2 + (-44{,}240)^2 + 1.4 * (1{,}242) * (-44{,}240)]^{0.5} \ = 43{,}379.67$$

Step 2.2: Calculation of add-on at the level of asset class

Given the effective notional amounts calculated under Step 2.1, the add-on for each asset class is calculated as follows:

Asset class	**Effective notional amount** (HK$'000) (a)	**Supervisory factor** (b)	**Add-on**[4] (HK$'000) = (a) × (b)
Interest rate contracts	43,380	0.5%	216.90
Credit-related derivative contracts	19,033	0.54%	102.78

Step 2.3: Calculation of add-on at the level of netting set

$$AddOn^{(aggregate)} = AddOn^{(IR)} + AddOn^{(Credit)} = 216.90 + 102.78 = 319.68$$

<u>Step 3: Calculation of potential future exposure at the level of netting set</u>

$$multiplier = \min\left\{1; Floor + (1 - Floor) * exp\left(\frac{V - C}{2 * (1 - Floor) * AddOn^{(aggregate)}}\right)\right\}$$

$$= \min\left\{1; 5\% + (1 - 5\%) * exp\left(\frac{(10 - 25 + 50) - 0}{2 * (1 - 5\%) * 319.68}\right)\right\}$$

= 1

$$PFE = multiplier * Addon^{(aggregate)} = 1 * (319.68) = 319.68$$

<u>Step 4: Calculation of default risk exposure of the netting set</u>

$$Default\ \ Risk\ \ Exposure = alpha * (RC + PFE) = 1.4 * (35 + 319.68) = 496.55$$

---

[4] Also see footnote 2.

II. Reporting arrangement

Division A - RWA

a. Part IIIa

(in HK$'000)

Item	Nature of item	On-balance sheet exposures: Principal Amount (A1)	Off-balance sheet exposures: Principal Amount / Notional Amount (A2)	Off-balance sheet exposures: Credit Equivalent Amount (A3)	Off-balance sheet exposures: Default Risk Exposure (A4)	Risk-weight % (A5)	Risk-weighted Amount (A6) = (A1+A3+A4) x A5
Class VIII Other Exposures							
29a.	Exposures to corporates or individuals not elsewhere reported		30,000		497	100	497
29b.	Holdings of equity or other forms of capital instruments issued by, and non-capital LAC liabilities of, financial sector entities subject to 100% risk-weight					100	
29h.	Other exposures not elsewhere reported						
29h(1).							
29h(2).							
29h(3).							
29h(4).							
	SUBTOTAL		**30,000**		**497**		**497**

b. Part IIIb

(in HK$'000)

Item	Nature of item	On-balance sheet exposures: Principal Amount (A1)	On-balance sheet exposures: Principal Amount after CRM (A2)	Off-balance sheet exposures: Principal Amount / Notional Amount (A3)	Off-balance sheet exposures: Credit Equivalent Amount after CRM (A4)	Off-balance sheet exposures: Default Risk Exposure after CRM (A5)	Risk-weight % (A6)	Risk-weighted Amount (A7) = (A2+A4+A5) x A6
Class VI	Corporate Exposures							
9a.	Risk-weight 20%						20	
9b.	Risk-weight 30%						30	
9c.	Risk-weight 50%						50	
9d.	Risk-weight 100%			30,000		497	100	497
9e.	Risk-weight 150%						150	
	SUBTOTAL			30,000		497		497

<u>Division B – Default risk exposure amount</u>

a. Part IIIa Division B – III

(in HK$'000)

Item	Nature of item						
20.	Contracts covered by recognized netting						
						Out of which:	
	Type of Contract	Total Notional Amount (B17)	Total Replacement Cost (B18)	Total Potential Future Exposure (B19)	Total Default Risk Exposure (B20)	Sovereign exposures (B21)	Exposures to corporates or individuals (B25)
20a.	Interest rate contracts	20,000					
20b.	Exchange rate contracts						
20c.	Credit-related derivative contracts						
20d.	Equity-related derivative contracts	10,000					
20e.	Commodity-related derivative contracts						
	SUBTOTAL	**30,000**	**35**	**320**	**497**		**497**

b. Part IIIb Division B - II

(in HK$'000)

Item	Nature of item							
13.	Contracts covered by recognized netting							
						Out of which:		
	Type of Contract	Total Notional Amount (B13)	Total Replacement Cost (B14)	Total Potential Future Exposure (B15)	Total Default Risk Exposure (B16)	Sovereign exposures (B17)	Corporate exposures (B22)	Regulatory retail exposures (B23)
13a.	Interest rate contracts	20,000						
13b.	Exchange rate contracts							
13c.	Credit-related derivative contracts	10,000						
13d.	Equity-related derivative contracts							
13e.	Commodity-related derivative contracts							
	SUBTOTAL	**30,000**	**35**	**320**	**497**		**497**	

Case 4: Margined contracts covered by recognized netting

In this case, the contracts involved are the same as Case 2 and subject to the same margin agreement as described in Case 2, except that the contracts are covered by the same valid bilateral netting agreement and therefore fall within the same netting set.

I. Calculation of default risk exposure

Step 1: Calculation of replacement cost (RC) at the level of netting set

$$RC = max\,(V - C\,;\, TH + MTA - NICA;\, 0)$$

$$V = 10 - 25 + 11 + 16 = 12$$

$$RC = \max\,(12 - 500\,;\, 0 + 5 - 450;\, 0) \;= 0$$

Step 2: Calculation of add-on at the level of netting set

Step 2.1: Calculation of contract-level effective notional amount (D_i)

From Cases 1 and 2, we have the following information on each of the derivative contracts:

Contract	**Maturity bucket**	**Supervisory delta (δ_i)** (a)	**Adjusted notional amount (d_i)** (HK$'000) (b)	**Maturity factor (MF_i)** (c)	**Effective notional amount (D_i)** (HK$'000) = (a) × (b) × (c)
A1	1	+1	2,484	0.3	745.33
A2	2	-1	44,240	0.3	-13,271.95
A4	NA	+0.588	234	0.3	41.31
A5	NA	+1	7,881	0.3	2,364.17

The maturity factor for margined transactions depends on the margin period of risk (MPOR). For daily re-margining, the MPOR is at least 10 business days. In this example, the contracts are not centrally cleared and the requirements in §226BZE(3), (4) and (6) do not apply to the contracts. Hence, the maturity factor for the contracts in the netting set is as follows (the convention of 250 business days in a year is used):

$$\mathrm{MF}_{\mathrm{i}}^{(\mathrm{margined})} = \frac{3}{2}\sqrt{\frac{\mathrm{MPOR_i}}{1\ \mathrm{year}}} = 1.5 * \sqrt{\frac{10}{250}} = 0.3$$

Step 2.2: Calculation of effective notional amount (D_i) at the level of hedging set

Contracts A1 and A2 are in the same hedging set but in different maturity buckets. The effective notional amount of the hedging set is calculated by using Formula 23AS in §226BU(2) of the BCR as follows:

$$Effective\ \ Notional \ \ = [(D_{A1})^2 + (D_{A2})^2 + 1.4 \cdot D_{A1} \cdot D_{A2}]^{0.5}$$

$$= [(745.33)^2 + (-13{,}271.95)^2 + 1.4 * (745.33) * (-13{,}271.95)]^{0.5} = 12{,}761.33$$

In the case of Contracts A4 and A5, each contract forms its own hedging set. Hence, the effective notional amount of each hedging set is same as the contract-level effective notional amount.

Step 2.3: Calculation of add-on at the level of asset class

Given the effective notional amounts calculated under Step 2.2, the add-on for each asset class is calculated as follows:

Asset class	**Effective notional amount** (HK$'000) (a)	**Supervisory factor** (b)	**Add-on**[5] (HK$'000) = (a) × (b)
Interest rate contract	12,761.33	0.5%	63.81
Equity-related derivative contract	41.31	32%	13.22
Exchange rate contract	2,364.17	4%	94.57

Step 2.4: Calculation of add-on at the level of netting set

$$AddOn^{(aggregate)} = AddOn^{(IR)} + AddOn^{(\mathrm{Equity})} + AddOn^{(FX)}$$

$$= 63.81 + 13.22 + 94.57 = 171.59$$

[5] See footnote 2, which also applies in the case of equity-related derivative contracts.

Step 3: Calculation of potential future exposure at the level of netting set

$$multiplier = \min\left\{1; Floor + (1 - Floor) * exp\left(\frac{V - C}{2 * (1 - Floor) * AddOn^{(aggregate)}}\right)\right\}$$

$$= \min\left\{1; 5\% + (1 - 5\%) * exp\left(\frac{12 - 500}{2 * (1 - 5\%) * 171.59}\right)\right\}$$

= 0.2627

$$PFE = multiplier * Addon^{(aggregate)} = 0.2627 * (171.59) = 45.07$$

Step 4: Calculation of default risk exposure of the netting set

$$Default\ \ Risk\ \ Exposure = alpha * (RC + PFE) = 1.4 * (0 + 45.07) = 63$$

II. Reporting arrangement

Division A - RWA

a. Part IIIa

(in HK$'000)

Item	Nature of item	On-balance sheet exposures: Principal Amount (A1)	Off-balance sheet exposures: Principal Amount / Notional Amount (A2)	Off-balance sheet exposures: Credit Equivalent Amount (A3)	Off-balance sheet exposures: Default Risk Exposure (A4)	Risk-weight % (A5)	Risk-weighted Amount (A6) = (A1+A3+A4) x A5
Class VIII Other Exposures							
29a.	Exposures to corporates or individuals not elsewhere reported		28,008		63	100	63
29b.	Holdings of equity or other forms of capital instruments issued by, and non-capital LAC liabilities of, financial sector entities subject to 100% risk-weight					100	
29h.	Other exposures not elsewhere reported						
29h(1).							
29h(2).							
29h(3).							
29h(4).							
	SUBTOTAL		28,008		63		63

b. Part IIIb

(in HK$'000)

Item	Nature of item	On-balance sheet exposures: Principal Amount (A1)	On-balance sheet exposures: Principal Amount after CRM (A2)	Off-balance sheet exposures: Principal Amount / Notional Amount (A3)	Off-balance sheet exposures: Credit Equivalent Amount after CRM (A4)	Default Risk Exposure after CRM (A5)	Risk-weight % (A6)	Risk-weighted Amount (A7) = (A2+A4+A5) x A6
Class VI	**Corporate Exposures**							
9a.	Risk-weight 20%						20	
9b.	Risk-weight 30%						30	
9c.	Risk-weight 50%						50	
9d.	Risk-weight 100%			28,008		63	100	63
9e.	Risk-weight 150%						150	
	SUBTOTAL			**28,008**		**63**		**63**

Division B – Default risk exposure amount

a. Part IIIa Division B – III

(in HK$'000)

Item	Nature of item	Total Notional Amount (B17)	Total Replacement Cost (B18)	Total Potential Future Exposure (B19)	Total Default Risk Exposure (B20)	Out of which: Sovereign exposures (B21)	Out of which: Exposures to corporates or individuals (B25)
20.	Contracts covered by recognized netting						
	Type of Contract						
20a.	Interest rate contracts	20,000					
20b.	Exchange rate contracts	7,774					
20c.	Credit-related derivative contracts						
20d.	Equity-related derivative contracts	234					
20e.	Commodity-related derivative contracts						
	SUBTOTAL	**28,008**		**45**	**63**		**63**

b. Part IIIb Division B – II

(in HK$'000)

Item	Nature of item	Total Notional Amount (B13)	Total Replacement Cost (B14)	Total Potential Future Exposure (B15)	Total Default Risk Exposure (B16)	Out of which: Sovereign exposures (B17)	Out of which: Corporate exposures (B22)	Out of which: Regulatory retail exposures (B23)
13.	Contracts covered by recognized netting							
	Type of Contract							
13a.	Interest rate contracts	20,000						
13b.	Exchange rate contracts	7,774						
13c.	Credit-related derivative contracts							
13d.	Equity-related derivative contracts	234						
13e.	Commodity-related derivative contracts							
	SUBTOTAL	**28,008**	**0**	**45**	**63**		**63**	

Annex IIIb-A

Illustrations on Reporting of Recognized Credit Risk Mitigation

All monetary figures in HK$ million unless otherwise stated.

Case 1: On-balance sheet exposure – collateralized loan

- Exposure: A 5-year term loan of $1,000 to an unrated corporate incorporated in Hong Kong.
- Collateral: Debt securities that are–
  - — issued by a bank;
  - — denominated in Euro;
  - — rated AA by the Standard & Poor's; and
  - — maturing in 7 years.
- The collateral is subject to daily revaluation and presently has a market value of $1,050.

Simple Approach

1. Calculation of Risk-weighted Amount

- Exposure: Applicable risk-weight (RW) is 100% (see §61(4) of the BCR).
- Collateral: An AA-rating is mapped to a RW of 20% (see §59 (Table 3) of, and Table B in Schedule 6 to, the BCR).
- Credit protection covered portion: $1,000
- Credit protection uncovered portion: $0
- RWA of the loan calculated by substituting the RW of the corporate with the RW of the collateral: $1,000 $\times$ 20% = $200

2. Reporting Arrangement

Division A

(in HK$'000)

Item	Nature of item	On-balance sheet exposures: Principal Amount (A1)	On-balance sheet exposures: Principal Amount after CRM (A2)	Off-balance sheet exposures: Principal Amount / Notional Amount (A3)	Off-balance sheet exposures: Credit Equivalent Amount after CRM (A4)	Off-balance sheet exposures: Default Risk Exposure after CRM (A5)	Risk-weight % (A6)	Risk-weighted Amount (A7) = (A2+A4+A5) x A6
Class IV	Bank Exposures							
7a.	Exposures with original maturity of more than three months:							
7a(i).	Risk-weight 20%	0	1,000,000				20	200,000
7a(ii).	Risk-weight 50%						50	
7a(iii).	Risk-weight 100%						100	
7a(iv).	Risk-weight 150%						150	
	SUBTOTAL	0	1,000,000					200,000
Class VI	Corporate Exposures							
9a.	Risk-weight 20%						20	
9b.	Risk-weight 30%						30	
9c.	Risk-weight 50%						50	
9d.	Risk-weight 100%	1,000,000	0				100	0
9e.	Risk-weight 150%						150	
	SUBTOTAL	1,000,000	0					0

Comprehensive Approach

1. Calculation of Risk-weighted Amount

- Standard supervisory haircut applicable to the collateral: 8% (see item 2 in Part 1 of the Table in Schedule 7 to the BCR).
- Standard supervisory haircut for currency mismatch: 8% (see item 2 in Part 3 of the Table in Schedule 7).
- As the above standard supervisory haircuts only assume a 10-day holding period, they have to be scaled up to haircuts for 20-day holding period (which is the minimum holding period assumed for secured lending transactions) using Formula 5A in §91(3) of the BCR and Formula 33 in §3 of Schedule 7:

$$H = H_{10} \text{ x } \sqrt{\frac{N_R + (T_M - 1)}{10}} = 8\% \text{ x } \sqrt{\frac{1 + (20 - 1)}{10}} = 11\%$$

- The exposure after CRM (E*) is calculated by using Formula 2 in §87 of the BCR:

$$E^* = \max\{0, [E \times (1 + H_e) - C \times (1 - H_c - H_{fx})]\}$$
$$= \max\{0, [1{,}000 \times (1 + 0\%^{1}) - 1{,}050 \times (1 - 11\% - 11\%)]\}$$

---

[1] As the lending involves only cash, no haircut is required for the loan exposure (i.e. He = 0).

$$= \max(0, 181)$$
$$= 181$$

- RWA of the loan $= E^* \times$ risk-weight of the unrated corporate
  $= 181 \times 100\%$
  $= 181$

2. Reporting Arrangement

Division A

(in HK$'000)

Item	Nature of item	On-balance sheet exposures: Principal Amount (A1)	On-balance sheet exposures: Principal Amount after CRM (A2)	Off-balance sheet exposures: Principal Amount / Notional Amount (A3)	Off-balance sheet exposures: Credit Equivalent Amount after CRM (A4)	Off-balance sheet exposures: Default Risk Exposure after CRM (A5)	Risk-weight % (A6)	Risk-weighted Amount (A7) = (A2+A4+A5) x A6
Class VI	Corporate Exposures							
9a.	Risk-weight 20%						20	
9b.	Risk-weight 30%						30	
9c.	Risk-weight 50%						50	
9d.	Risk-weight 100%	1,000,000	181,000				100	181,000
9e.	Risk-weight 150%						150	
	SUBTOTAL	**1,000,000**	**181,000**					**181,000**

Case 2: Off-balance sheet exposure - collateralized loan commitment

Now assuming that the corporate borrower in Case 1 has not yet drawn down the loan facility and the facility has an original maturity of 2 years (i.e. the borrower has to draw down the loan within 2 years). It is also assumed that the loan facility cannot be cancelled by the AI unconditionally.

Simple approach

1. Calculation of Risk-weighted Amount

- CCF applicable to a commitment with an original maturity over 1 year: 50% (see item 9(b) of Table 10 in §71(1) of the BCR).
- CEA of the commitment = $1,000 × 50% = $500
- RWA of the commitment (with the RW of the corporate replaced by the RW of the collateral): $500 × 20% = $100

2. Reporting Arrangement

Division A

(in HK$'000)

Item	Nature of item	On-balance sheet exposures: Principal Amount (A1)	On-balance sheet exposures: Principal Amount after CRM (A2)	Off-balance sheet exposures: Principal Amount / Notional Amount (A3)	Off-balance sheet exposures: Credit Equivalent Amount after CRM (A4)	Off-balance sheet exposures: Default Risk Exposure after CRM (A5)	Risk-weight % (A6)	Risk-weighted Amount (A7) = (A2+A4+A5) x A6
Class IV	Bank Exposures							
7a.	Exposures with original maturity of more than three months:							
7a(i).	Risk-weight 20%			0	500,000		20	100,000
7a(ii).	Risk-weight 50%						50	
7a(iii).	Risk-weight 100%						100	
7a(iv).	Risk-weight 150%						150	
	SUBTOTAL			**0**	**500,000**			**100,000**
Class VI	Corporate Exposures							
9a.	Risk-weight 20%						20	
9b.	Risk-weight 30%						30	
9c.	Risk-weight 50%						50	
9d.	Risk-weight 100%			1,000,000	0		100	0
9e.	Risk-weight 150%						150	
	SUBTOTAL			**1,000,000**	**0**			**0**

Division B - I

(in HK$'000)

Item	Nature of item	Credit Conversion Factor % (B1)	Total Principal Amount (net of specific provisions) (B2)	Total Credit Equivalent Amount (B3)	Out of which: Sovereign exposures (B4)	Corporate exposures (B9)	CIS exposures (B10)	Regulatory retail exposures (B11)	Residential mortgage loans (B12)
9a.	Commitments that are unconditionally cancellable without prior notice	0		0	0	0	0	0	0
9b.	Other commitments (CCF at 20%)	20							
9c.	Other commitments (CCF at 50%)	50	1,000,000	500,000		500,000			
10.	Off-balance sheet exposures not specified above								
10a.		100							
10b.									
10c.									
10d.									
	SUBTOTAL		1,000,000	500,000		500,000			

Comprehensive Approach

1. Calculation of Risk-weighted Amount

- The standard supervisory haircuts for both the collateral and the currency mismatch are scaled up from 8% to 11% (as shown in Case 1 above).
- The CEA after CRM (E*) is calculated by using Formula 3 in §88 of the BCR:

$$
\begin{aligned}
E^* &= \max\{0, [E \times (1 + H_e) - C \times (1 - H_c - H_{fx})]\} \times CCF \\
&= \max\{0, [1{,}000 \times (1 + 0\%) - 1{,}050 \times (1 - 11\% - 11\%)]\} \times 50\% \\
&= 90.5
\end{aligned}
$$

- RWA of the loan commitment $= E^* \times$ risk-weight of the unrated corporate

$$
\begin{aligned}
&= 90.5 \times 100\% \\
&= 90.5
\end{aligned}
$$

2. Reporting Arrangement

Division A

(in HK$'000)

Item	Nature of item	On-balance sheet exposures: Principal Amount (A1)	On-balance sheet exposures: Principal Amount after CRM (A2)	Off-balance sheet exposures: Principal Amount / Notional Amount (A3)	Off-balance sheet exposures: Credit Equivalent Amount after CRM (A4)	Off-balance sheet exposures: Default Risk Exposure after CRM (A5)	Risk-weight % (A6)	Risk-weighted Amount (A7) = (A2+A4+A5) x A6
Class VI	Corporate Exposures							
9a.	Risk-weight 20%						20	
9b.	Risk-weight 30%						30	
9c.	Risk-weight 50%						50	
9d.	Risk-weight 100%			1,000,000	90,500		100	90,500
9e.	Risk-weight 150%						150	
	SUBTOTAL			**1,000,000**	**90,500**			**90,500**

Division B – I

(in HK$'000)

Item	Nature of item	Credit Conversion Factor % (B1)	Total Principal Amount (net of specific provisions) (B2)	Total Credit Equivalent Amount (B3)	Out of which: Sovereign exposures (B4)	Corporate exposures (B9)	CIS exposures (B10)	Regulatory retail exposures (B11)	Residential mortgage loans (B12)
9a.	Commitments that are unconditionally cancellable without prior notice	0		0	0	0	0	0	0
9b.	Other commitments (CCF at 20%)	20							
9c.	Other commitments (CCF at 50%)	50	1,000,000	500,000		500,000			
10.	Off-balance sheet exposures not specified above								
10a.		100							
10b.									
10c.									
10d.									
	SUBTOTAL		**1,000,000**	**500,000**		**500,000**			

Case 3: Collateralized derivative contract covered by recognized guarantee

◆ Interest rate contract with a notional of \$1,000 with a four-year residual maturity.
◆ Not subject to margin agreement and netting agreement.
◆ The counterparty is an unrated corporate.
◆ The contract is covered by a guarantee of \$8 provided by a bank with an "A1" Moody's rating.
◆ It is assumed that the replacement cost and potential future exposure of the contract calculated under the SA-CCR approach are \$1 and \$18 respectively.

1. Calculation of Risk-weighted Amount

Default risk exposure in respect of the interest rate contract is calculated as follows:

$$Default\ \ Risk\ \ Exposure = alpha * (RC + PFE) = 1.4 * (1 + 18) = 26.6$$

- RW applicable to the bank guarantee: 50%.
- RWA of credit protection covered portion = \$8 × 50% = \$4
- RWA of credit protection uncovered portion = (\$26.6 - \$8) × 100% = \$18.6
- Total RWA = \$4 + \$18.6 = \$ 22.6

2. Reporting Arrangement

Division A

(in HK$'000)

Item	Nature of item	On-balance sheet exposures: Principal Amount (A1)	Principal Amount after CRM (A2)	Off-balance sheet exposures: Principal Amount / Notional Amount (A3)	Credit Equivalent Amount after CRM (A4)	Default Risk Exposure after CRM (A5)	Risk-weight % (A6)	Risk-weighted Amount (A7) = (A2+A4+A5) x A6
Class IV	**Bank Exposures**							
7a.	Exposures with original maturity of more than three months:							
7a(i).	Risk-weight 20%						20	
7a(ii).	Risk-weight 50%			0		8,000	50	4,000
7a(iii).	Risk-weight 100%						100	
7a(iv).	Risk-weight 150%						150	
	SUBTOTAL			**0**		**8,000**		**4,000**
Class VI	**Corporate Exposures**							
9a.	Risk-weight 20%						20	
9b.	Risk-weight 30%						30	
9c.	Risk-weight 50%						50	
9d.	Risk-weight 100%			1,000,000		18,600	100	18,600
9e.	Risk-weight 150%						150	
	SUBTOTAL			**1,000,000**		**18,600**		**18,600**

Division B - II

(in HK$'000)

Item	Nature of item							
11.	Unmargined contracts not covered by recognized netting							
	Type of Contract	Total Notional Amount (B13)	Total Replacement Cost (B14)	Total Potential Future Exposure (B15)	Total Default Risk Exposure (B16)	Out of which: Sovereign exposures (B17)	Corporate exposures (B22)	Regulatory retail exposures (B23)
11a.	Interest rate contracts	1,000,000	1,000	18,000	26,600		26,600	
11b.	Exchange rate contracts							
11c.	Credit-related derivative contracts							
11d.	Equity-related derivative contracts							
11e.	Commodity-related derivative contracts							
	SUBTOTAL	**1,000,000**	**1,000**	**18,000**	**26,600**		**26,600**	

Completion Instructions

Return of Capital Adequacy Ratio
Part IIIc – Risk-weighted Amount for Credit Risk
Internal Ratings-based Approach
Form MA(BS)3(IIIc)

Introduction

1. Form MA(BS)3(IIIc) ("IRB return") of Part III should be completed by each authorized institution incorporated in Hong Kong (AI) using the ***internal ratings-based approach*** (***IRB approach***) to calculate ***credit risk*** under Part 6 of the Banking (Capital) Rules.

2. These completion instructions contain the following four sections:

3. Section A gives the general instructions and definitions for the reporting of the IRB return. Section B provides the specific instructions for calculating the ***risk-weighted amount*** for each ***IRB class/subclass*** under the IRB approach. Section C explains the calculation of ***total EL amount*** and ***total eligible provisions*** and the capital treatment for the difference between these two items under the IRB approach. Section D explains the specific reporting instructions for each reporting form, with illustrative examples provided in **Annex IIIc-A**.

4. This return and its completion instructions should be read in conjunction with the Rules and the relevant supervisory policy/guidance on the revised capital adequacy framework.

Section A: General Instructions

I. Scope of the IRB Return

5. An AI is required to report in this return its credit ***exposures*** subject to the IRB approach, including:

   (a) all of the AI's on-balance sheet exposures and off-balance sheet exposures booked in its ***banking book***, except for exposures that are required to be deducted from any of the AI's ***Common Equity Tier 1 capital*** (***CET1 capital***), ***Additional Tier 1 capital*** and ***Tier 2 capital***[1], exposures to a ***central counterparty*** (***CCP***)[2] and ***securitization exposures***[3];

   (b) all of the AI's exposures to counterparties –

      (i) under ***derivative contract***s or ***securities financing transaction***s (***SFT***s) booked in an AI's ***trading book***; or

      (ii) in respect of assets that are –

      - posted by the AI as collateral for transactions or contracts booked in its trading book; and

      - in respect of ***unsegregated collateral*** posted by the AI for transactions or contracts booked in its trading book,

   except for exposures that are subject to deduction from any of the AI's CET1 capital, Additional Tier 1 capital and Tier 2 capital and exposures to a CCP.

6. Subject to the Monetary Authority's (MA) ***prior consent***, an AI using the IRB approach may simultaneously have a portion of its credit exposures subject to the ***basic approach*** (***BSC approach***) and/or the ***standardized (credit risk) approach*** (***STC approach***), which should be reported in Form MA(BS)3(IIIa) and/or Form MA(BS)3(IIIb) according to the respective reporting requirements.

II. Classification of Exposures

7. In reporting this return, an AI should classify each of its credit exposures into one of the six IRB classes and then sub-classify each of these exposures into one of the twenty six IRB subclasses as shown in the table below in accordance with the

[1] Exposures that are required to be deducted from an AI's CET1 capital, Additional Tier 1 capital and/or Tier 2 capital should be reported in Form MA(BS)3(II).

[2] Exposures to CCPs should be reported in Form MA(BS)3(IIIe).

[3] Securitization exposures include ***re-securitization exposure***s unless stated otherwise. Securitization exposures in the banking book should be reported in Form MA(BS)3(IIId), while securitization exposures in the trading book should be reported in Form MA(BS)3(IV).

definitions given in paragraphs 13 to 33:

IRB Class		**IRB Subclass**	
1.	Corporate exposures	(1)	Specialized lending under supervisory slotting criteria approach (project finance)
		(2)	Specialized lending under supervisory slotting criteria approach (object finance)
		(3)	Specialized lending under supervisory slotting criteria approach (commodities finance)
		(4)	Specialized lending under supervisory slotting criteria approach (income-producing real estate)
		(5)	Specialized lending (high-volatility commercial real estate)
		(6)	Small-and-medium sized corporates
		(7)	Other corporates
2.	Sovereign exposures	(8)	Sovereigns
		(9)	Sovereign foreign public sector entities
		(10)	Multilateral development banks
3.	Bank exposures	(11)	Banks
		(12)	Securities firms
		(13)	Public sector entities (excluding sovereign foreign public sector entities)
4.	Retail exposures	(14)	Residential mortgages to individuals
		(15)	Residential mortgages to property-holding shell companies
		(16)	Qualifying revolving retail exposures
		(17)	Small business retail exposures
		(18)	Other retail exposures to individuals
5.	Equity exposures	(19)	Equity exposures under market-based approach (simple risk-weight method)
		(20)	Equity exposures under market-based approach (internal models method)

IRB Class		IRB Subclass	
		(21)	Equity exposures under PD/LGD approach (publicly traded equity exposures held for long-term investment)
		(22)	Equity exposures under PD/LGD approach (privately owned equity exposures held for long-term investment)
		(23)	Equity exposures under PD/LGD approach (other publicly traded equity exposures)
		(24)	Equity exposures under PD/LGD approach (other equity exposures)
6.	Other exposures	(25)	Cash items
		(26)	Other items

8. Purchased receivables do not form an IRB class on their own and should be classified as ***corporate*** exposures or retail exposures, as the case requires.

III. Choice of IRB Calculation Approaches

9. Under the IRB approach, an AI may use the following IRB calculation approaches for each of the six IRB classes, provided that the relevant criteria and qualifying conditions are met:

<table>
<tr><th>IRB class</th><th>Corporate</th><th>Sovereign</th><th>Bank</th><th>Retail</th><th>Equity</th><th>Other</th></tr>
<tr><td rowspan="3">Approaches available</td><td>foundation IRB approach</td><td>foundation IRB approach</td><td>foundation IRB approach</td><td rowspan="3">retail IRB approach</td><td>market-based approach: simple risk-weight method</td><td rowspan="3">specific risk-weight approach</td></tr>
<tr><td>advanced IRB approach</td><td rowspan="2">advanced IRB approach</td><td rowspan="2">advanced IRB approach</td><td>market-based approach: internal models method</td></tr>
<tr><td>supervisory slotting criteria approach</td><td>PD/LGD approach</td></tr>
</table>

IV. Structure of the IRB Return

10. The IRB return consists of the following six divisions:

Division A: Summary of Risk-weighted Amount for Credit Risk under IRB Approach – showing the risk-weighted amount by IRB class/subclass and the effect of the scaling factor; a breakdown of the risk-weighted amount for selected types of exposures and the ***CVA risk-weighted amount***[4] for ***CVA risk*** is also shown;

Division B: Risk-weighted Amount by IRB Class/Subclass – providing information on the ***credit risk components*** and risk-weighted amount of individual IRB subclasses or, where applicable, individual portfolio types;

Division C: LGD for Corporate, Sovereign and Bank Exposures – providing supplementary information on ***LGD*** of individual IRB subclasses or, where applicable, individual portfolio types for ***corporate***, ***sovereign*** and ***bank*** exposures under the ***foundation IRB approach*** or the ***advanced IRB approach***;

Division D: Off-Balance Sheet Exposures (Other than Default Risk Exposure in respect of Derivative Contracts and SFTs) under IRB Approach – providing supplementary information to Division B by giving a breakdown of off-balance sheet exposures (other than derivative contracts and SFTs) for corporate, sovereign, bank and retail exposures;

Division E: Default Risk Exposures in respect of Derivative Contracts and SFTs – providing supplementary information to Division B by giving a breakdown of derivative contracts and SFTs for corporate, sovereign, bank and retail exposures; and

Division F: EL-EP Calculation under IRB Approach – providing a breakdown of the respective ***EL amount*** and ***eligible provisions*** for corporate, sovereign, bank and retail exposures and calculating the difference between the two, if any, for the computation of the capital base.

11. There are multiple forms in Divisions B, C and E of this return for the reporting of different IRB subclasses of exposures or exposures subject to different calculation methods. A list showing the reporting forms under various divisions is given at **Annex IIIc-B**. For Divisions A, D and F, an AI is required to report the positions of all relevant IRB classes/subclasses in one single form. For Divisions B and C, the position of each IRB subclass (or, where applicable, each portfolio type) should be reported separately in the form applicable to that IRB subclass (or that portfolio type). For Division E, the positions should be reported separately according to the methods the AI adopts for the calculation of ***default risk exposure***s in respect of derivative contracts and SFTs.

[4] The term "CVA" in "CVA risk-weighted amount" refers to "***credit valuation adjustment***" – see definition in section 2(1) of the Rules. The CVA risk-weighted amount is the aggregate of such amounts reported in Form MA(BS)3(IIIf).

12. Where an AI uses more than one internal ***rating system*** for an IRB class/subclass[5], the AI should split the exposures into portfolios according to the internal rating systems used and report each portfolio in one form under Division B (and, where applicable, Division C). In addition, the AI should provide a brief description of the nature of the portfolio under the item "portfolio type" of each separate form. An AI should consult with the HKMA on the appropriate reporting treatment if it has difficulties to report its exposures by portfolio in the above manner.

V. Definitions and Clarification

(A) Definition of IRB Classes and Subclasses

Corporate Exposures

13. An AI should classify each of its exposures to corporates, including purchased corporate receivables, into one of the following IRB subclasses:

(i) ***specialized lending*** (SL) under ***supervisory slotting criteria approach*** (project finance) (see paragraphs 14 to 16);

(ii) SL under supervisory slotting criteria approach (***object finance***) (see paragraphs 14 to 16);

(iii) SL under supervisory slotting criteria approach (***commodities finance***) (see paragraphs 14 to 16);

(iv) SL under supervisory slotting criteria approach (***income-producing real estate***) (see paragraphs 14 to 16);

(v) Specialized lending (high-volatility commercial real estate) (see paragraphs 14 to 16);

(vi) small-and-medium sized corporates (SME corporates) (see paragraph 17); and

(vii) other corporates (see paragraph 18).

(a) SL

14. SL is a corporate exposure that possesses, unless specified otherwise, all of the following characteristics, either in legal form or economic substance:

[5] For example, an AI may have more than one internal rating system for its qualifying revolving retail exposures, such as having separate scorecards for credit card lending and personal revolving loans.

(i) the exposure is usually to a corporate (often a special purpose vehicle (SPV)) which has been created specifically to own and/or operate a specific asset (in other words, it has little or no other material assets or activities);

(ii) the terms of the exposure give the AI (i.e. the lender) a substantial degree of control over the specific asset and the income which the specific asset generates; and

(iii) the primary source of repayment of the exposure is the income generated by the specific asset (i.e. rather than other sources of income generated by the corporate).

15. There are five types of SL:-

(i) Project finance (PF): PF refers to a method of funding in which an AI looks primarily to the revenue generated by a single project, both as the source of repayment of, and as collateral for, the exposure. PF is usually for large, complex and expensive installations that may include, for example, power plants, chemical processing plants, mines, transportation infrastructure, and telecommunications infrastructure. It may take the form of financing of the construction of a new capital installation, or refinancing of an existing installation, with or without improvements. The borrowing entity is usually an SPV established for the purpose of the project that is not permitted to perform any function other than developing, owning and operating the installation. The consequence is that repayment depends primarily on the project's cash flows (such as electricity sold by a power plant) and on the collateral value of the project's assets. In contrast, if repayment of the exposure depends primarily on a well established, diversified, credit-worthy and contractually obligated entity, the exposure should be treated as a collateralized exposure to that entity;

(ii) Object finance (OF): OF refers to a method of funding the acquisition of physical assets (e.g. taxis, public light buses, ships, aircraft and satellites) where the repayment of the exposure is dependent on the cash flows generated by the assets that have been financed and pledged or assigned to an AI. A primary source of these cash flows may be rental or lease contracts with one or several third parties. In contrast, if the exposure is to a borrowing entity whose financial condition and debt-servicing capacity enables it to repay the debt without undue reliance on the specifically pledged assets, the exposure should be treated as a collateralized corporate exposure;

(iii) Commodities finance (CF): CF refers to a structured short-term lending to finance reserves, inventories, or receivables of exchange-traded commodities (e.g. metals, energy or agricultural products), where the exposure will be repaid from the proceeds of the sale of the commodity and the borrowing entity has no other sources of income to repay the exposure. This is the case when the borrowing entity has no other activities and no other material assets on its balance sheet. The structured nature of the financing is designed to compensate for the weak credit quality of the borrowing entity. The rating of the exposure reflects its self-liquidating nature and the AI's skill in structuring the transaction rather than the credit quality of the borrowing entity. Such lending can be

distinguished from exposures financing the reserves, inventories, or receivables of other more diversified borrowing entities where the AI is able to rate the credit quality of these latter entities based on their broader ongoing operations. In such cases, the value of the commodity serves as a risk mitigant rather than as the primary source of repayment;

(iv) Income-producing real estate (IPRE): IPRE refers to a method of funding to finance real estate (such as office buildings, retail shops, residential buildings, industrial or warehouse premises, and hotels) where the prospects for repayment and recovery on the exposure depend primarily on the cash flows generated by the asset. The primary source of these cash flows would generally be lease or rental payments or the sale of the asset. The borrowing entity may be, but is not required to be, an SPV, an operating company focused on real estate construction or holdings, or an operating company with sources of revenue other than real estate. The distinguishing characteristic of IPRE versus other corporate exposures that are collateralized by real estate is the strong positive correlation between the prospects for repayment of the exposure and the prospects for recovery in the event of default, with both depending primarily on the cash flows generated by a property; and

(v) High-volatility commercial real estate (HVCRE): HVCRE is the financing of commercial real estate that exhibits a higher loss rate volatility (i.e. higher asset correlation) compared to other types of SL. ***HVCRE exposure***s include:

- Commercial real estate exposures secured by any commercial real estate of a type that is categorized and announced by the MA or a relevant banking supervisory authority outside Hong Kong as sharing a higher volatility in portfolio default rate;

- Commercial real estate exposures financing any of the land acquisition, development and construction phases (ADC phases) of commercial real estate of a type referred to above; and

- Exposures financing the ADC phases of any other commercial real estate where the source of repayment at origination of the exposure is either the future uncertain sale of the commercial real estate or cash flows whose source of repayment is substantially uncertain (e.g. the commercial real estate has not yet been leased to the occupancy rate prevailing in that geographic market for that type of commercial real estate), and the borrowing entity in respect of the exposure does not have substantial equity at risk in the commercial real estate. ***Specified ADC exposure***s as defined under section 158(6) of the Rules, however, are ineligible for the preferential treatment set out in section 158(3) of the Rules.

Pursuant to section 143(4A) and (5)(ba) of the Rules, and unlike other types of SL, an AI's corporate exposures that meet the descriptions of HVCRE exposures above must be categorized into the IRB subclass of specialized lending (high-volatility commercial real estate) and are precluded from falling within any other IRB subclasses of corporate exposures (such as the IRB subclass of specialized lending (income-producing real estate)).

16. An AI that does not meet the requirements for ***PD*** estimation under the foundation IRB approach, or those for the estimation of PD, LGD and ***EAD*** and the calculation of ***M*** under the advanced IRB approach, for its SL should use the supervisory slotting criteria approach to derive the risk-weighted amount of such SL, by:

(i) assigning the SL to internal grades based on its own rating criteria and map its internal grades to the five supervisory rating grades of "strong", "good", "satisfactory", "weak" and "default" (see paragraph 75) by reference to the criteria specified in Annex 6 to the document entitled "International Convergence of Capital Measurement and Capital Standards – A Revised Framework (Comprehensive Version)" published by the Basel Committee on Banking Supervision (BCBS) in June 2006 or the ***credit quality grades*** specified in Schedule 8 of the Rules; and

(ii) complying with applicable requirements set out in section 158(2) of the Rules.

(b) SME corporates

17. In respect of an exposure to a corporate (other than HVCRE exposures) which has a reported total annual revenue (or a consolidated reported total annual revenue for the group of which the corporate is a part[6]) of less than HK$500 million, an AI may classify the exposure under the IRB subclass of SME corporates. In the case where total annual revenue is not a meaningful indicator of the scale of business of a corporate, the MA may, on an exceptional basis, allow an AI to substitute the total assets for total annual revenue in applying the above threshold for that corporate. To ensure that the information used is timely and accurate, the AI should obtain the total annual revenue figures from the corporate's latest audited financial statements[7] and have the figures updated at least annually.

(c) Other corporates

18. An AI should classify all of its exposures to corporates which do not fall within any of the following IRB subclasses:

(i) SL under supervisory slotting criteria approach (PF);

(ii) SL under supervisory slotting criteria approach (OF);

(iii) SL under supervisory slotting criteria approach (CF);

[6] Where the corporate concerned is consolidated with other corporates by the AI for risk management purposes, the figure of the consolidated reported total annual revenue can be derived from the aggregate of the reported total annual revenue in the latest annual financial statements of the corporate concerned and the other corporates.

[7] This does not apply to those customers that are not subject to statutory audit (such as a sole proprietorship). In such cases, an AI should obtain their latest available management accounts.

(iv) SL under supervisory slotting criteria approach (IPRE);

(v) SL (high-volatility commercial real estate);

(vi) SME corporates;

(vii) residential mortgages (RM) to ***property-holding shell companies*** (see paragraph 25); and

(viii) small business retail exposures (see paragraph 27),

as exposures under the IRB subclass of other corporates.

Sovereign Exposures

19. Sovereign exposures[8] include exposures which fall within one of the following IRB subclasses:

(i) sovereigns;

(ii) ***sovereign foreign public sector entities*** (SFPSEs); and

(iii) multilateral development banks (MDBs).

Bank Exposures

20. Bank exposures include exposures which fall within one of the following IRB subclasses:

(i) banks;

(ii) ***securities firms***; and

(iii) ***public sector entities*** (PSEs) that are not SFPSEs.

Retail Exposures

21. Exposures to individuals which, regardless of exposure size, are managed by an AI on a pooled or portfolio basis[9] should be classified as retail exposures. Retail exposures to individuals usually include ***residential mortgage loans*** (RMLs), ***revolving*** credits (e.g. credit cards and overdrafts) and other personal loans (e.g. instalment loans, auto

[8] Holdings of notes and coins should be reported as cash items under the IRB class of other exposures (see paragraph 33).

[9] The MA does not intend to set the minimum number of retail exposures in a portfolio. An AI should establish its own policies to ensure the granularity and homogeneity of its retail exposures.

loans, tax loans, personal finance and other retail credits with similar characteristics). For those exposures which are not managed by an AI on a pooled or portfolio basis[10], an AI should treat them as corporate exposures.

22. Exposures to corporates may also be classified as retail exposures, provided that the criteria set out in paragraph 27 are met.

23. An AI should classify each of its retail exposures, including purchased retail receivables, into one of the following IRB subclasses:

    (i) RM to individuals (see paragraph 24);

    (ii) RM to property-holding shell companies (see paragraph 25);

    (iii) qualifying revolving retail exposures (QRRE) (see paragraph 26);

    (iv) small business retail exposures (see paragraph 27); and

    (v) other retail exposures to individuals (see paragraph 28).

(a) RM to individuals

24. RM to individuals refers to RMLs (including first and subsequent liens, term loans and revolving home equity lines of credit) that are extended to individuals, regardless of exposure size, and that the property secured for the loan is used, or intended for use, as the residence of the borrower or as the residence of a tenant, or a licensee, of the borrower.

(b) RM to property-holding shell companies

25. RM to property-holding shell companies refers to RMLs granted to property-holding shell companies on the condition that the credit risk of such loans is akin to those granted to individuals. This is considered to be the case where:

    (i) the property securing the RML is used, or intended for use, as the residence of one or more than one director or shareholder of the property-holding shell company or as the residence of a tenant, or a licensee, of the property-holding shell company;

    (ii) the RML granted to the property-holding shell company is fully and effectively covered by a personal ***guarantee*** entered into by one or more than one director or shareholder of the company ("the guarantors");

[10] This does not preclude retail exposures from being treated individually at some stages of the risk management process. The fact that an exposure is rated individually does not by itself preclude it from being eligible as a retail exposure.

(iii) the AI is satisfied that the above guarantors are able to discharge their financial obligations under the guarantees, having due regard to their overall indebtedness; and

(iv) the RML granted to the property-holding shell company has been assessed by reference to substantially similar credit underwriting standards (e.g. the loan purpose, loan-to-value ratio and debt-service ratio) as would normally be applied by the AI to an individual.

(c) QRRE

26. An AI should classify under the IRB subclass of QRRE a retail exposure that meets the following criteria:

(i) the exposure is ***revolving***, unsecured, and unconditionally cancellable (both contractually and in practice) by the AI;

(ii) the exposure is to one or more than one individual and not explicitly for business purposes;

(iii) the exposure is not more than HK$1 million;

(iv) the exposure belongs to a ***pool*** of exposures which have exhibited, in comparison with other IRB subclasses of retail exposures, low loss rate volatility relative to the AI's average level of loss rates for retail exposures, especially within the pools to which low estimates of PD are attributed[11];

(v) data on loss rates for the QRRE portfolio(s) are retained by the AI in order to allow analysis of the volatility of loss rates; and

(vi) treatment of the exposure as QRRE is consistent with the underlying risk characteristics of the exposure.

(d) Small business retail exposures

27. An AI may classify its exposures to a corporate under the IRB subclass of small business retail exposures, provided that:

(i) the total exposure of the AI or, where applicable, of its ***consolidation group*** to the corporate (or, where applicable, to the consolidated group of which the corporate is a part) is less than HK$10 million[12];

---

[11] This is because the correlation value (R) of the QRRE risk-weight formula is markedly below that of the risk-weight formula for other IRB subclasses of retail exposures, especially at low PD values.

[12] Small business credits extended through, or guaranteed by, an individual are subject to the same exposure threshold.

(ii) the exposures are originated by the AI in a manner similar to retail exposures to individuals; and

(iii) the exposures are managed by the AI on a pooled or portfolio basis in the same manner as retail exposures to individuals. In other words, they should not be managed individually in a way similar to corporate exposures, but rather as a portfolio segment or a pool of exposures with similar risk characteristics for the purposes of risk assessment and quantification.

(e) Other retail exposures to individuals

28. Other retail exposures to individuals include all retail exposures to individuals (see paragraph 21) which do not fall within the IRB subclass of:

(i) RM to individuals (see paragraph 24); or

(ii) QRRE (see paragraph 26).

Equity Exposures

29. An AI should consider the economic substance of an instrument in determining whether the instrument should be classified as an equity exposure. Equity exposures include both direct and indirect ownership interests (whether voting or non-voting) in a corporate[13] where those interests are not consolidated or deducted for the purposes of calculating an AI's capital base. These instruments include:

(i) holdings of any share issued by a corporate;

(ii) holdings of any ***equity-related derivative contract***;

(iii) holdings in any ***collective investment scheme*** which is engaged principally in the business of investing in equity interests;

(iv) holdings of any instrument which would be included in an AI's CET1 capital or Additional Tier 1 capital if the instrument were issued by the AI;

(v) holdings of any instrument:

- which is irredeemable in the sense that the return of the invested funds can be achieved only by the sale of the instrument or the sale of the rights to the instrument or by the liquidation of the issuer;
- which does not embody an obligation on the part of the issuer (subject to item (vi)); and
- which conveys a residual claim on the assets or income of the issuer;

[13] For the purposes of categorizing exposures into the IRB class of equity exposures, corporate means a company, or a partnership or any other unincorporated body, that is not a public sector entity.

(vi) holdings of any instrument which embodies an obligation on the part of the issuer and in respect of which:

- the issuer may indefinitely defer the settlement of the obligation;
- the obligation requires (or permits at the issuer's discretion) settlement by the issuance of a fixed number of the issuer's equity shares;
- the obligation requires (or permits at the issuer's discretion) settlement by the issuance of a variable number of the issuer's equity shares and, other things being equal, any change in the value of the obligation is attributable to, comparable to, and in the same direction as, the change in the value of a fixed number of the issuer's equity shares[14]; or
- the AI, as the holder of the instrument, has the option to require that the obligation be settled in equity shares, unless the AI demonstrates to the satisfaction of the MA that: (a) in the case of a traded instrument, the instrument trades more like debt of the issuer than equity; or (b) in the case of a non-traded instrument, the instrument should be treated as a debt holding;

(vii) holdings of any ***non-capital LAC liability*** of a financial sector entity;

(viii) holdings of any debt obligation, share, derivative contract, investment scheme or instrument, which is structured with the intent of conveying the economic substance of equity interests[15]; and

(ix) any of the AI's liabilities on which the return is linked to that of equity interests.

30. An AI should not classify as equity exposures any equity holding which is structured with the intent of conveying the economic substance of debt holdings or securitization exposures. The MA may, on a case-by-case basis, require an AI to re-classify a debt holding as an equity exposure if the MA considers that the nature and economic substance of the debt holding are more akin to an equity exposure than a debt holding.

31. An AI adopting the IRB approach is required to classify each of its equity exposures booked in the banking book under one of the following IRB subclasses based on the method in use (i.e. the ***market-based approach*** or the ***PD/LGD approach***) and, where applicable, the portfolio types:

---

[14] For certain obligations that require or permit settlement by the issuance of a variable number of the issuer's equity shares, the change in the monetary value of the obligation is equal to the change in the fair value of a fixed number of equity shares multiplied by a specified factor. Those obligations meet the conditions of this item if both the factor and the reference number of shares are fixed. For example, an issuer may be required to settle an obligation by issuing shares with a value equal to three times the appreciation in the fair value of 1,000 equity shares. That obligation is considered to be the same as an obligation that requires settlement by the issuance of shares equal to the appreciation in the fair value of 3,000 equity shares.

[15] Equity interests that are recorded by an AI as a loan, but which arise from a debt/equity swap made as part of the orderly realization or restructuring of a debt should be classified as equity exposures. However, these exposures may not be allocated a lower risk-weight than would apply if such holdings had remained in the AI's debt portfolio.

(i) equity exposures under market-based approach (***simple risk-weight method***);

(ii) equity exposures under market-based approach (***internal models method***);

(iii) equity exposures under PD/LGD approach (publicly traded equity exposures held for long-term investment);

(iv) equity exposures under PD/LGD approach (privately owned equity exposures held for long-term investment);

(v) equity exposures under PD/LGD approach (other publicly traded equity exposures); and

(vi) equity exposures under PD/LGD approach (other equity exposures).

32. Equity exposures booked in the trading book are not subject to the IRB approach. Instead, these exposures should be subject to the ***market risk*** capital treatment and reported in Form MA(BS)3(IV).

Other Exposures

33. An AI should classify under the IRB class of other exposures any of its exposures which do not fall within the IRB class of corporate, sovereign, bank, retail or equity exposures. These exposures include:

(i) ***cash items***, the types of exposures covered are set out in the table under paragraph 135; and

(ii) ***other items***, which are other exposures that do not fall within the IRB subclass of cash items, e.g. premises, plant and equipment and other fixed assets for own use (see paragraph 136).

(B) Clarification

34. Figures of percentage or year should be rounded up to two decimal points.

35. An AI should report in the columns of "Exposures before ***recognized guarantees*** / credit derivative contracts" the ***EAD*** of its on-balance sheet exposures and off-balance sheet exposures before adjusting for the credit risk mitigating effects of any recognized guarantee and ***recognized credit derivative contract***. For instance:

(i) in respect of on-balance sheet exposures, the AI should report the EAD of such exposures both before and after adjusting for the credit risk mitigating effects of any ***recognized netting***;

(ii) in respect of off-balance sheet exposures (other than derivative contracts and SFTs), the AI should report the ***credit equivalent amount*** of such exposures; and

(iii) in respect of off-balance sheet exposures which are derivative contracts and SFTs, the AI should report the default risk exposures of such transactions after adjusting for the credit risk mitigating effects of any recognized netting.

36. An AI should report in the columns of "Exposures after recognized guarantees / credit derivative contracts" the EAD of its on-balance sheet exposures and off-balance sheet exposures after adjusting for the credit risk mitigating effects of any recognized netting, recognized guarantee and recognized credit derivative contract.

37. ***Principal amount***, in respect of an off-balance sheet exposure, should be reported without deduction of ***specific provisions*** and partial write-offs.

38. Double counting of exposures arising from the same contract or transaction should be avoided. For example, only the undrawn portion of a corporate loan commitment should be reported as an off-balance sheet exposure in item 9 or 10 of Form IRB_OBSND and columns (7) and (10) of Form IRB_CSB while the actual amount drawn should be reported as an on-balance sheet exposure in columns (6) and (9) of Form IRB_CSB. Similarly, ***trade-related contingencies***, e.g. trust receipts and shipping guarantees for which the exposures have already been reported as letters of credit issued or loans against import bills etc., should not be reported under item 3 of Form IRB_OBSND and columns (7) and (10) of Form IRB_CSB.

39. In certain cases, credit exposures arising from derivative contracts may have already been fully or partially reflected on the balance sheet. For example, an AI may have already recorded the ***current exposures*** to counterparties (i.e. ***mark-to-market*** values) under foreign exchange and interest rate related contracts on the balance sheet, typically as either sundry debtors or sundry creditors. To avoid double counting, such exposures should be excluded from on-balance sheet exposures and reported under the derivative contracts for the purposes of this return.

40. The accrued interest of a credit exposure should form part of the EAD of the credit exposure. An AI should therefore classify and risk-weight the accrued interest receivables in the same way as the principal amount of the respective credit exposures.

Section B: Calculation of Risk-weighted Amount for Credit Risk under IRB Approach

I. Risk-weighted Amount under IRB Approach

41. The IRB approach to credit risk is based on measures of unexpected loss (UL) and ***expected loss*** (***EL***). The ***risk-weight functions*** in this section produce capital requirements for the UL portion. EL is treated separately as outlined in section C.

42. An AI should calculate the risk-weighted amount for the UL of its credit exposures (excluding exposures that are subject to deduction from the AI's CET1 capital, Additional Tier 1 capital and Tier 2 capital, securitization exposures and exposures to CCPs) under the IRB approach as follows:

    (i) the AI should calculate the risk-weighted amount of each exposure (except equity exposures to which item (ii) applies and counterparty credit risk exposures to which item (iii) applies) by multiplying the EAD of each such exposure by the relevant risk-weight;

    (ii) in respect of an equity exposure which is subject to the internal models method and for which the relevant minimum risk-weight (see paragraph 122(ii)) does not apply, the AI should calculate the risk-weighted amount by multiplying the potential loss of the exposure calculated under the internal models method by 12.5;

    (iii) in respect of derivative contracts or SFTs, the AI must calculate the risk-weighted amount of the counterparty credit risk exposure -

        (a) if the AI has an ***IMM(CCR) approval***[16] and an approval to use the ***IMM approach***[17] to calculate the ***market risk capital charge*** for specific risk for interest rate exposures, by aggregating -

        - the ***IMM(CCR) risk-weighted amount*** of the transactions or contracts concerned that are covered by the IMM(CCR) approval;

        - the ***SA-CCR risk-weighted amount***[18] or ***SFT risk-weighted amount***[19] of the transactions or contracts concerned that are (i) not covered by the IMM(CCR) approval; or (ii) covered by the IMM(CCR) approval but fall within section 10B(5) or (7) of the Rules; and

---

[16] The term "IMM(CCR)" in "IMM(CCR) approval" refers to the ***internal models (counterparty credit risk) approach*** (***IMM(CCR) approach***) - see definitions in section 2(1) of the Rules.

[17] The term "IMM approach" refers to the ***internal models approach*** for the calculation of market risk - see definition in section 2(1) of the Rules.

[18] The term "SA-CCR" in "SA-CCR risk-weighted amount" refers to the ***standardized (counterparty credit risk) approach*** - see definition in section 2(1) of the Rules.

[19] See the definition of "SFT risk-weighted amount" in section 139(1) of the Rules.

- the CVA risk-weighted amount determined using the ***advanced CVA method*** (and reported in Division A of Form MA(BS)3(IIIf)), the ***standardized CVA method*** (and reported in Division B of Form MA(BS)3(IIIf)), or a combination of those 2 methods that is permitted under the Rules, as the case requires;

(b) if the AI has an IMM(CCR) approval but does not have an approval to use the IMM approach to calculate the market risk capital charge for specific risk for interest rate exposures, by aggregating -

- the IMM(CCR) risk-weighted amount of the transactions or contracts concerned that are covered by the IMM(CCR) approval;

- the SA-CCR risk-weighted amount or SFT risk-weighted amount of the transactions or contracts concerned that are (i) not covered by the IMM(CCR) approval; or (ii) covered by the IMM(CCR) approval but fall within section 10B(5) or (7) of the Rules; and

- the CVA risk-weighted amount determined using the standardized CVA method (and reported in Division B of Form MA(BS)3(IIIf)); and

(c) if the AI does not have an IMM(CCR) approval for any of its transactions or contracts, by aggregating -

- the SA-CCR risk-weighted amount;

- the SFT risk-weighted amount; and

- the CVA risk-weighted amount determined using the standardized CVA method (and reported in Division B of Form MA(BS)3(IIIf)); and

(iv) the AI should aggregate the risk-weighted amount figures derived from items (i), (ii) and (iii) (except the CVA risk-weighted amounts reported in Form MA(BS)3(IIIf)) and then apply a scaling factor (1.06) to the aggregate figure to arrive at the total risk-weighted amount for credit risk under the IRB approach.

43. For the purposes of paragraph 42(iii), an AI may, in the case of a default risk exposure in respect of ***long settlement transaction***s (LSTs), determine the exposure's relevant risk-weight using the STC approach on a permanent basis.

44. An AI must regard the total amount of the ***CVA capital charge*** for its counterparties determined in accordance with Division 3 of Part 6A of the Rules as the basis for determining the CVA risk-weighted amount of the AI as required under paragraph 42(iii), regardless of whether any of those counterparties falls within Part 6 of the Rules. That means the CVA risk-weighted amounts reported in Form MA(BS)3(IIIf) should be aggregated and reported in item 9 of Division A of Form MA(BS)3(IIIc).

45. An AI may reduce the risk-weighted amount of an exposure by taking into account the effect of any ***recognized credit risk mitigation*** through adjusting the PD, LGD or

EAD, as the case may be, in accordance with Part XIII of this section.

II. General Requirements for All IRB Classes

(A) General Requirements

46. There are three key elements for calculation of risk-weighted amount for the UL portion under the IRB approach, including:

    (i) credit risk components – these are estimates of PD, LGD, EAD, EL and M made by an AI, or *supervisory estimates* specified in the Rules;

    (ii) risk-weight functions – these are the formulae by which credit risk components are transformed into risk-weighted amount and therefore capital requirements; and

    (iii) minimum requirements - the minimum standards which an AI should meet for the use of the IRB approach[20].

47. An AI should use the risk-weight functions provided in this section for the purpose of calculating the risk-weighted amount, unless otherwise specified. In applying such risk-weight functions, PD and LGD are measured as decimals, EAD is measured in HK$ and M is measured in years.

48. For the purposes of calculating the EAD of an exposure (whether held on- or off-balance sheet) that is measured at fair value, an AI should comply with the prudent valuation and valuation adjustment requirements in section 4A of the Rules.

(B) Corporate, Sovereign and Bank Exposures

49. Under the foundation IRB approach, an AI should provide its own estimates of PD associated with each of its ***obligor grades***, but should use supervisory estimates for other credit risk components (i.e. LGD, EAD and M[21]).

50. Under the advanced IRB approach, an AI should provide its own estimates of PD, LGD and EAD and calculate M.

51. In respect of SL under supervisory slotting criteria approach (see paragraph 16), an AI should apply the supervisory estimate of a risk-weight that is applicable to a supervisory rating grade (see paragraph 75) in calculating the risk-weighted amount of

[20] Please refer to Part 6 and Schedule 2 of the Rules and the relevant supervisory policy/guidance relating to the IRB approach.

[21] The use of explicit maturity adjustments is not required under the foundation IRB approach. Subject to the MA's prior consent, an AI having suitable systems for the calculation of M may be allowed to use explicit maturity adjustments under the foundation IRB approach.

such SL.

(C) Retail Exposures

52. Under the ***retail IRB approach***, an AI should provide its own estimates of PD, LGD and EAD associated with each pool of retail exposures. There is no distinction between a foundation approach and an advanced approach for retail exposures.

(D) Equity Exposures

53. There are two approaches to calculate the risk-weighted amount of equity exposures held in the banking book: (i) the market-based approach and (ii) the PD/LGD approach[22]. Under the market-based approach, an AI may use the simple risk-weight method, the internal models method or a combination of both. However, for certain types of equity exposures that meet specified descriptions, a supervisory risk-weight applies to the relevant exposures irrespective of the calculation approaches the exposures are subject to (see paragraphs 119 and 120).

(E) Other Exposures

54. Under the ***specific risk-weight approach***, an AI should apply a specific risk-weight applicable to an exposure which falls within the IRB subclass of cash items (see paragraph 135) or the IRB subclass of other items (see paragraph 136) in calculating the risk-weighted amount of the exposure.

III. Specific Requirements for Certain Exposure Portfolios

(A) Purchased Receivables

55. Purchased receivables straddles corporate and retail IRB classes. For purchased corporate receivables, both the foundation IRB approach and the advanced IRB approach are available subject to the relevant minimum requirements being met. Like other retail exposures, there is no distinction between a foundation approach and an advanced approach for purchased retail receivables. For purchased receivables (whether corporate or retail), an AI is required to calculate the risk-weighted amount for default risk and, if material, ***dilution risk*** of such purchased receivables (see Part VIII of this section).

(B) Leasing Transactions

56. There is a distinct treatment for calculating the risk-weighted amount of exposures

[22] The PD/LGD approach to equity exposures remains available for an AI adopting the advanced IRB approach for its corporate, sovereign and bank exposures.

arising from leases with ***residual value risk*** (see Part IX of this section). Leases without any residual value risk will be accorded the same treatment as exposures collateralized by the underlying leased assets.

(C) **Securities Financing Transactions (SFTs)**

57. The calculation of the risk-weighted amount for SFTs depends on the economic substance of the transaction and whether the transaction is booked in the banking book or the trading book (see Part X of this section).

(D) **Credit-linked Notes**

58. The calculation of the risk-weighted amount for a ***credit-linked note*** depends on the risk-weight attributable to the ***reference obligation*** or basket of reference obligations of the note, the note issuer, and the AI's maximum liability under the note (see Part XI of this section).

IV. Corporate, Sovereign and Bank Exposures

(A) **Risk-weight Function for Derivation of Risk-weighted Amount**

59. The calculation of the risk-weighted amount of a corporate, sovereign or bank exposure is dependent on the estimates of PD, LGD, EAD and, in some cases, M, of a given exposure.

(a) Non-defaulted exposures

60. Subject to paragraph 77, for corporate, sovereign and bank exposures that are not in default (but excluding those treated as ***hedged exposures*** under the ***double default framework***), the risk-weighted amount is calculated as follows [23, 24]:

Correlation (R)

= 0.12 × (1 - EXP (-50 × PD)) / (1 - EXP (-50)) + 0.24 × [1 - (1 - EXP (-50 × PD)) / (1 - EXP (-50))]

Maturity adjustment (b)

= (0.11852 - 0.05478 × ln (PD))^2

---

[23] EXP denotes exponential and ln denotes the natural logarithm.

[24] N(x) denotes the cumulative distribution function for a standard normal random variable (i.e. the probability that a normal random variable with mean zero and variance of one is less than or equal to x). G(z) denotes the inverse cumulative distribution function for a standard normal random variable (i.e. the value of x such that N(x) = z). The normal cumulative distribution function and the inverse of the normal cumulative distribution function are, for example, available in Excel as the functions NORMSDIST and NORMSINV.

Capital charge factor[25] **(K)**

= [LGD × N [(1 - R)^-0.5 × G (PD) + (R / (1 - R))^0.5 × G (0.999)] - PD x LGD] x (1 - 1.5 x b)^ -1 × (1 + (M - 2.5) × b)

Risk-weight (RW) = K x 12.5

Risk-weighted amount = RW x EAD

(Illustrative risk-weights are shown in **Annex IIIc-C**.)

(b) Defaulted exposures

61. An AI should use the same risk-weight function set out in paragraph 60 to calculate the risk-weighted amount of its corporate, sovereign and bank exposures which are in default (i.e. a default of the obligor in respect of the exposure has occurred by virtue of section 149(1) or (5A) of the Rules), except that the capital charge factor (K) for a defaulted corporate, sovereign or bank exposure should be equal to the greater of:

(i) zero; or

(ii) the figure resulting from the subtraction of the AI's best estimate of the EL[26] from the LGD of the defaulted exposure.

(c) Hedged exposures under double default framework

62. For any hedged exposure under the double default framework (see paragraphs 212 and 213), the risk-weighted amount is calculated as below:

Correlation (ρ_{os})

= 0.12 × (1 - EXP (-50 × PD_o)) / (1 - EXP (-50)) + 0.24 × [1 - (1 - EXP (-50 × PD_o)) / (1 - EXP (-50))]

Maturity adjustment (b_{os})

= (0.11852 - 0.05478 × ln (PD_{os}))^2

Capital charge factor (K_{DD})

$$= \left\{ LGD_g \times \left[N\left(\frac{G(PD_o) + \sqrt{\rho_{os}} \times G(0.999)}{\sqrt{1-\rho_{os}}} \right) - PD_o \right] \times \frac{1 + (M_{os} - 2.5) \times b_{os}}{1 - 1.5 \times b_{os}} \right\} \times (0.15 + 160 \times PD_g)$$

Risk-weight (RW_{DD}) = K_{DD} x 12.5

Risk-weighted amount = RW_{DD} x EAD_g

[25] If this calculation results in a negative capital charge for any individual sovereign exposure, an AI should apply a zero capital charge for that exposure.

[26] With the prior consent of the MA, an AI which uses the foundation IRB approach may use the supervisory estimate for the LGD as the EL for its corporate, sovereign and bank exposures which are in default.

where:

PD_o = PD of the underlying ***obligor*** without taking into account the effect of ***credit protection*** (see paragraph 80)

PD_g = PD of the ***credit protection provider*** of the hedged exposure (see paragraph 80)

PD_{os} = The lower of PD_o and PD_g

M_{os} = M of the credit protection (see paragraph 107)

LGD_g = LGD of a comparable direct exposure to the credit protection provider (see paragraphs 98 and 99)

EAD_g = EAD of the hedged exposure

63. Defaulted exposures cannot be subject to the double default framework. In case the underlying obligor of a hedged exposure defaults, such exposure should be treated as a direct exposure to the credit protection provider and then risk-weighted accordingly. Conversely, if the credit protection provider of a hedged exposure defaults, such exposure should remain with the underlying obligor and should be risk-weighted as an ***unhedged exposure*** to the underlying obligor. In case both the underlying obligor and the credit protection provider of a hedged exposure default, such exposure should be treated as a defaulted exposure to either the underlying obligor or the credit protection provider, depending on which party defaulted last.

(d) Derivative contracts - Full maturity adjustment

64. Where an AI that uses the advanced CVA method to calculate its CVA capital charge demonstrates to the satisfaction of the MA that its ***VaR*** model used in the advanced CVA method adequately covers the effects of rating migrations, the institution may—

(i) calculate the risk-weight applicable to a default risk exposure in respect of derivative contracts under paragraph 60 with the *full maturity adjustment* set equal to 1; and

(ii) calculate the risk-weight applicable to a default risk exposure in respect of derivative contracts under paragraph 62 with the full maturity adjustment set equal to 1 but the credit protection provider must be one of the counterparties covered by the CVA capital charge calculation.

65. The term "full maturity adjustment" in paragraph 64(i) and (ii) means -

(i) that amount calculated by the component (1 – 1.5 × b)^ – 1 × (1 + (M – 2.5) × b) in Formula 16 of the Rules (see paragraph 60); or

(ii) that amount calculated by the component $\frac{1+(M_{os}-2.5)\times b_{os}}{1-1.5\times b_{os}}$ in Formula 17 of the Rules (see paragraph 62),

as the case requires.

(e) SME corporates - Firm-size adjustment

66. An AI using the IRB approach is permitted to separately distinguish its corporate exposures as SME corporates as defined in paragraph 17. For these SME corporate exposures, a firm-size adjustment (i.e. 0.04 x (1 - (S-50) / 450)) must be applied to the relevant risk-weight function as set out in paragraph 60 or 62, as the case requires, for the calculation of the correlation value:

(i) Exposures to SME corporates that are not subject to the double default framework

Correlation (R)

$= 0.12 \times (1 - EXP(-50 \times PD)) / (1 - EXP(-50)) + 0.24 \times [1 - (1 - EXP(-50 \times PD)) / (1 - EXP(-50))] - 0.04 \times (1 - (S - 50) / 450)$

(ii) Exposures to SME corporates that are subject to the double default framework

Correlation (ρ_{os})

$= 0.12 \times (1 - EXP(-50 \times PD_o)) / (1 - EXP(-50)) + 0.24 \times [1 - (1 - EXP(-50 \times PD_o)) / (1 - EXP(-50))] - 0.04 \times (1 - (S - 50) / 450)$

where S is expressed as the total annual revenue of the SME corporate (or the consolidated total annual revenue of the group of which the SME corporate is a member[27]) in millions of HK$ with the value of S falling in the range from HK$50 million to HK$500 million. Total annual revenue of less than HK$50 million will be deemed as equivalent to HK$50 million for the purpose of the firm-size adjustment. In the case where total annual revenue does not accurately reflect a corporate's scale of business, the MA may, on an exceptional basis, allow an AI to substitute the corporate's total assets for the total annual revenue in calculating the firm-size adjustment for the SME corporate.

(f) Exposures to certain financial institutions – Correlation adjustment by way of asset value correlation multiplier

67. For an AI's corporate, sovereign or bank exposure to an obligor that is (i) a ***large regulated financial institution***; or (ii) a ***financial institution*** that is not supervised by a ***financial regulator***, the AI must multiply the correlation (R) or correlation (ρ_{os}) in the risk weight function set out in paragraph 60 or 62, as the case requires, by 1.25.

68. For the purposes of paragraph 67,

- "financial institution" means an entity that-

[27] An AI should treat a SME corporate and other corporates which are consolidated by the AI for risk management purposes as a consolidated group.

(a) is a ***financial sector entity***; or

(b) is engaged predominantly in any one or more of the following activities, whether by itself or through any of its subsidiaries—

(i) lending;
(ii) factoring;
(iii) provision of credit enhancement;
(iv) securitization;
(v) proprietary trading;
(vi) any other financial services activity specified in Part 11 of Schedule 1 of the Rules;

- "financial regulator" means a regulatory authority that imposes supervisory standards (including supervisory standards relating to capital and liquidity) that are substantially consistent with international standards;

- "large regulated financial institution" means a financial institution that is supervised by a financial regulator and that—

(a) has total assets of not less than HK$780 billion as determined by reference to the institution's most recent audited consolidated financial statements or (if the institution does not have any subsidiary) the institution's most recent audited financial statements; or

(b) is a member of a group of companies (comprised of the ultimate holding company[28] and all of its subsidiaries) that has total assets of not less than HK$780 billion as determined by reference to the group's most recent audited consolidated financial statements.

69. To ensure that the information used for determining whether a financial institution is a large regulated financial institution is timely and accurate, the AI should obtain the total assets figures from the latest audited financial statements of the financial institution or its wider group, as the case requires, and have the figures updated at least annually.

70. For the avoidance of doubt, if an SME corporate that is subject to the firm-size adjustment mentioned in paragraph 66 is also a financial institution to which the asset value correlation multiplier requirements mentioned in paragraph 67 apply, an AI should apply the adjustments mentioned in both paragraphs to the correlation (R) or correlation (ρ_{os}) in the risk-weight function set out in paragraph 60 or 62, as the case requires.

[28] There could be many forms and levels of consolidation in respect of a group of companies. To avoid any arbitrary specification, the HKMA intends to leverage on the consolidation requirements prescribed by generally acceptable accounting standards applicable to the financial groups. For the purposes of determining the total assets of the wider group of a financial institution under the definition of "large regulated financial institution", the top-most holding company included in the highest level of audited consolidated financial statements of a financial group (which comprises an ultimate holding company and all of its subsidiaries) should be regarded as the "ultimate holding company".

(g) SL

71. The capital treatments set out in this subsection apply to all types of SL (see paragraph 15) unless otherwise specified.

72. An AI that meets the requirements for PD estimation under the IRB approach for its SL should use the foundation IRB approach (or the advanced IRB approach, where the AI can also provide the estimates of other credit risk components) to calculate the risk-weighted amount for such SL, based on the relevant risk-weight functions set out in paragraphs 59 to 70.

73. The use of the foundation IRB approach or the advanced IRB approach by an AI in respect of its HVCRE exposures is subject to the additional requirements set out in section 158(1A), (1B) and (1C) of the Rules, as highlighted below:-

(i) The value of the asset correlation factor of 0.24 in the correlation (R or ρ_{os}) in the risk-weight functions mentioned in paragraphs 60 and 62 must be replaced by a value of 0.30, and this must remain the case both before and after any adjustment is made to R or ρ_{os} pursuant to section 157(5) or 157A of the Rules (see paragraphs 67 and 74).

(ii) If an AI has material IPRE exposures (i.e. the average aggregate EAD of its reference exposures[29] over the past 12 months exceeds 5% of its capital base as determined under Part 3 of the Rules), it must not use the advanced IRB approach in respect of its HVCRE exposures unless the AI also uses the advanced IRB approach to derive the risk-weighted amount of all of its IPRE exposures.

(iii) For an AI that started to use the advanced IRB approach for its HVCRE exposures at a time when it did not have any material IPRE exposures but which:

(a) subsequently becomes aware that it has material IPRE exposures; and
(b) does not also use the advanced IRB approach to derive the risk-weighted amount of all of its reference exposure[29],

the AI <u>must</u> cease to use the advanced IRB approach in respect of its HVCRE exposures after the expiry of a period of 6 months after the date on which the AI became so aware, <u>unless</u> the AI begins to use the advanced IRB approach for all of its reference exposures[29] within that 6-month period.

74. Subject to paragraph 73, an AI may make a firm-size adjustment as described in paragraph 66 to an HVCRE exposure that meets the size criteria for SME corporates set out in paragraph 17.

75. In respect of SL under supervisory slotting criteria approach, an AI should apply the risk-weight specified in the table below for the relevant supervisory rating grade to

[29] Please see the definition of "***reference exposure***" under section 158(6) of the Rules for the various sources of IPRE exposures of AIs for this purpose.

which a SL is assigned in calculating the risk-weighted amount of that SL.

	Strong	**Good**	**Satisfactory**	**Weak**	**Default**
A. SL (other than HVCRE exposures)					
(i) Remaining maturity of less than 2.5 years	50%	70%	115%	250%	0%
(ii) Remaining maturity of equal to or more than 2.5 years	70%	90%	115%	250%	0%
B. HVCRE exposures					
(i) Remaining maturity of less than 2.5 years	70%	95%	140%	250%	0%
(ii) Remaining maturity of equal to or more than 2.5 years	95%	120%	140%	250%	0%

76. An AI may assign a preferential risk-weight of –

(a) 50% to "strong" exposures and 70% to "good" exposures, as set out in row A(i) of the table above, in respect of its SL (other than HVCRE exposures and specified ADC exposures); and

(b) 70% to "strong" exposures and 95% to "good" exposures, as set out in row B(i) of the table above, in respect of its HVCRE exposures,

provided that the SL has a remaining maturity of less than 2.5 years, or the AI demonstrates to the satisfaction of the MA that the AI's credit underwriting criteria and the ability of the obligor in respect of the SL to withstand other risk characteristics are substantially stronger than the corresponding criteria for the equivalent supervisory rating grade as described in paragraph 16(i).

(h) LSTs arising from derivative contracts and SFTs

77. An AI may calculate the risk-weighted amount of the default risk exposure in respect of LSTs by multiplying the EAD of the exposure by the relevant risk-weight attributable to that exposure determined under the STC approach in accordance with Part 4 of the Rules. However, the positions of such exposures should still be reported in Form MA(BS)3(IIIc).

(B) Credit Risk Components

Probability of Default **(PD)**

78. For its corporate, sovereign and bank exposures, an AI should rate on an individual basis each legal entity to which the AI is exposed. In assigning a PD to individual obligors in a connected group, an AI may assign the same obligor grade in respect of exposures to these obligors (such an obligor grade reflects the benefits of group support in accordance with the established policy of the AI and is thus likely to be more favourable than if the individual obligors are rated on a standalone basis), provided the requirements of section 154(d) of the Rules are met. An AI is also required to set out in policies and put into operation a process for the identification of ***specific wrong-way risk*** for each legal entity to which the AI is exposed.

79. For corporate[30] and bank exposures, the PD of an exposure is the greater of the PD associated with the internal obligor grade to which that exposure is assigned, or 0.03%.

80. Under the double default framework, PD_o and PD_g (see paragraph 62) are the PD associated with the internal obligor grade of the underlying obligor and the credit protection provider, respectively, and both are also subject to the PD floor of 0.03%.

81. For sovereign exposures, the PD of an exposure is the PD associated with the internal obligor grade to which that exposure is assigned (i.e. without any PD floor).

82. For corporate, sovereign and bank exposures, the PD of an exposure assigned to a default grade (i.e. a default of the obligor in respect of the exposure has occurred by virtue of section 149(1) or (5A) of the Rules) is 100%.

83. When estimating the PD for an obligor that is highly leveraged or whose assets are predominantly traded assets, ensure such estimate reflects the performance of the obligor's assets based on volatilities calibrated to data from periods of significant financial stress. Forms and measures of leverage have proliferated, and will continue to evolve, as a result of financial innovation (in terms of products and trading strategies) and changes in market sentiment. While markets can, and apparently do, have a prevailing "sense" of which counterparties are regarded as "highly leveraged" (e.g. hedge funds and other equivalently highly leveraged financial sector entities), it appears that no market consensus has yet been reached on specific set(s) of definitive quantitative criteria for determining whether a counterparty is highly leveraged. AIs should therefore make their own judgement on whether an obligor should be considered "highly leveraged" in a prudent and consistent manner, having regard to the risk characteristics of their obligors and prevailing market perceptions of them as well as the nature of the markets in which they operate. A similar approach could be deployed in determining whether the assets of a particular counterparty are "predominantly" traded assets.

---

[30] In estimating the PD of a holding company which has both consolidated and unconsolidated (i.e. company level) financial statements, an AI should assess the financial strength of the company on both bases. If these two bases suggest two different PDs, the AI should use the higher one.

Loss Given Default **(LGD)**

84. An AI should provide an estimate of the LGD for each corporate, sovereign and bank exposure. There are two approaches for deriving this LGD estimate: the foundation IRB approach or the advanced IRB approach.

LGD under foundation IRB approach

(a) Treatment of exposures which are unsecured or secured by non-recognized collateral under foundation IRB approach

85. Subject to paragraphs 87 and 88, for corporate, sovereign and bank exposures, a senior exposure[31] that is unsecured or secured by a non-recognized collateral should be assigned a LGD of 45%.

86. Subject to paragraphs 87 and 88, for corporate, sovereign and bank exposures, a subordinated exposure[32] should be assigned a LGD of 75%.

(b) Treatment of transactions with specific wrong-way risk under foundation IRB approach

87. For default risk exposures in respect of single-name credit default swaps, where the swaps fall within section 226J(1) of the Rules and those exposures are determined in accordance with section 226J(3) of the Rules, the exposures should be assigned a supervisory estimate of 100% for the LGD.

88. For default risk exposures in respect of transactions that fall within section 226J(4) of the Rules, the exposures should be assigned a supervisory estimate of 100% for the LGD if the AI has the MA's approval to calculate ***incremental risk charge*** for the transactions and the determination of the default risk exposures under that section has used existing calculations for incremental risk charge that already contain an LGD assumption.

(c) ***Recognized collateral*** *under foundation IRB approach*

89. The following collateral can be recognized for senior exposures under the foundation IRB approach:

(i) ***recognized financial collateral*** –

[31] A senior exposure means an exposure to an obligor which is not a subordinated exposure.

[32] A subordinated exposure means an exposure to an obligor which is lower in ranking, or junior, to other claims against the obligor in terms of the priority of repayment or which will be repaid only after all the senior claims against the obligor have been repaid.

- includes any collateral which can be recognized under the ***comprehensive approach***[33] to the treatment of collateral under the STC approach;
- but does not include any collateral in the form of real property, or any collateral in the form of debt securities that would fall within the definition of re-securitization exposure in section 2(1) of the Rules if treated as an on-balance sheet exposure; and

(ii) ***recognized IRB collateral*** – these include:

- financial receivables which fall within section 205 of the Rules (recognized financial receivables);
- commercial real estate (recognized CRE) and residential real estate (recognized RRE) which fall within section 206 or 208 of the Rules; and
- physical assets (other than recognized CRE or recognized RRE) which fall within section 207 or 208 of the Rules (other recognized IRB collateral).

(d) Methodology for recognition of recognized financial collateral under foundation IRB approach

90. The methodology for recognition of recognized financial collateral closely follows the comprehensive approach under the STC approach. The effective LGD (LGD*) applicable to a senior exposure with recognized financial collateral is expressed as follows:

LGD* = LGD x (E* / E)

Where:

LGD	=	The supervisory estimate of the LGD specified in paragraph 85, 87 or 88, as the case may be, before recognition of recognized financial collateral
E	=	EAD of the exposure
E*	=	Net credit exposure (being the EAD of the exposure after recognition of recognized financial collateral[34])

91. E* is calculated as follows:

$$\mathbf{E^*} = \max\ \{0, [E \times (1 + H_e) - C \times (1 - H_c - H_{fx})]\}$$

[33] The simple approach to the treatment of collateral under the STC approach is not available to an AI applying the IRB approach.

[34] This concept is only applied to the calculation of LGD*. An AI should continue to calculate EAD without taking into account the presence of any collateral, unless otherwise specified.

Where:

H_e	=	***Haircut*** applicable to the exposure pursuant to the ***standard supervisory haircuts*** subject to adjustment as set out in section 92 of the Rules
C	=	Current market value of recognized financial collateral before adjustment required by the comprehensive approach to treatment of recognized collateral
H_c	=	Haircut applicable to recognized financial collateral pursuant to the standard supervisory haircuts subject to adjustment as set out in section 92 of the Rules
H_{fx}	=	Haircut applicable in consequence of a ***currency mismatch*** (if any) pursuant to the standard supervisory haircuts subject to adjustment as set out in section 92 of the Rules

In calculating the net credit exposure (E*), haircuts should be applied to the value of the exposure (H_e) and the value of the collateral (H_c) for any possible future price fluctuations. Where there is a currency mismatch between the exposure and the collateral, a further haircut (H_{fx}) should be applied to the collateral to provide allowance for any possible fluctuation in exchange rates. An AI should refer to Schedule 7 to the Rules which sets out the standard supervisory haircuts and the circumstances requiring a haircut adjustment (i.e. based on the frequency of remargining or revaluation) under the comprehensive approach. Where there is ***maturity*** mismatch between the exposure and the collateral, the AI should adjust the value of the collateral in accordance with paragraphs 223 to 225.

92. As in the STC approach, a 0% haircut is applied to repo-style transactions that are treated as collateralized loans to the counterparty if the criteria for the preferential treatment under the comprehensive approach as set out in section 82(2) of the Rules are satisfied.

(e) Methodology for recognition of recognized IRB collateral under foundation IRB approach

93. The methodology for determining the LGD* of a senior exposure under the foundation IRB approach for cases where an AI has taken recognized IRB collateral is set out as follows:

(i) exposures where the ratio of the current market value of the collateral received (C) to the EAD of the exposure (E) is below a threshold level of C* (i.e. the required minimum collateralization level for the exposure) will be treated as an unsecured exposure subject to a LGD specified in paragraph 85, 87 or 88, as the case may be; and

(ii) exposures where the ratio of (C) to (E) exceeds another threshold level of C** (i.e. the required level of over-collateralization for full LGD recognition) will be assigned a LGD according to the table below:

Recognized IRB collateral	Supervisory estimate of LGD	Required minimum collateralization for partial recognition (C*)	Required level of over-collateralization for full recognition (C**)
Recognized financial receivables	35%	0%	125%
Recognized CRE/ RRE	35%	30%	140%
Other recognized IRB collateral	40%	30%	140%

94. Under the foundation IRB approach, if the ratio of C to E of a senior exposure exceeds a threshold of level C* but not a threshold of level C**, the LGD* for the collateralized and uncollateralized portions of the exposure is determined as follows:

(i) the part of the exposure considered to be fully collateralized (i.e. C/C**) receives the LGD associated with the type of collateral according to the table in paragraph 93; and

(ii) the remaining part of the exposure is regarded as uncollateralized (i.e. E - C/C**) and receives a LGD specified in paragraph 85, 87 or 88, as the case may be.

(f) Methodology for recognition of pools of recognized collateral under foundation IRB approach

95. The methodology for determining the LGD* of an exposure under the foundation IRB approach for cases where an AI has taken both recognized financial collateral and recognized IRB collateral is aligned with the treatment in the STC approach and based on the following guidance:

(i) where an AI has obtained multiple forms of collateral recognized under the foundation IRB approach for an exposure, the AI should divide the exposure into:
- the portion fully collateralized by recognized financial collateral (after taking into account various haircuts and the adjustment for maturity mismatch in determining the value of the recognized financial collateral);
- the portion fully collateralized by recognized financial receivables;
- the portion fully collateralized by recognized CRE/RRE;
- the portion fully collateralized by other recognized IRB collateral;
- the portion, if any, which is uncollateralized.

(ii) where the ratio of the sum of the current market value of recognized CRE/RRE and other recognized IRB collateral to the remaining EAD of the exposure (i.e.

after taking into account the credit risk mitigating effect of recognized financial collateral and recognized financial receivables) is below the threshold level C* (i.e. 30%), the AI should assign a LGD specified in paragraph 85, 87 or 88, as the case may be, to the remaining exposure.

(iii) the AI should calculate the risk-weighted amount of each fully secured portion of exposure separately.

LGD under Advanced IRB Approach

96. Except for the exposures specified in paragraph 97, an AI using the advanced IRB approach is allowed to use its own internal estimates of LGD for corporate, sovereign and bank exposures. The LGD should be measured as a percentage of the EAD.

97. For a facility type that comprises default risk exposures in respect of single-name credit default swaps that fall within the description of paragraph 87 or transactions that fall within the description of paragraph 88, an AI must comply with the requirements of the applicable paragraph as if the institution were an AI that uses the foundation IRB approach.

LGD under Double Default Framework

98. For the purposes of calculating the risk-weighted amount of hedged exposures under the double default framework, LGD_g is the LGD of a comparable direct exposure to the credit protection provider (see paragraph 62). That means, LGD_g will be the LGD of the exposure to the credit protection provider or an ***unhedged exposure*** to the underlying obligor, depending upon whether in the event both the credit protection provider and the underlying obligor default during the life of the hedged exposure, available evidence and the structure of the guarantee/credit derivative contract indicate that the amount recovered would depend on the financial condition of the credit protection provider or the underlying obligor, as the case may be.

99. In estimating the LGD_g, an AI may recognize collateral provided exclusively against the exposure or the guarantee/credit derivative contract respectively. There should be no consideration of double recovery in the LGD estimate.

***Exposure at Default* (EAD)**

100. The EAD of an exposure is measured without deduction of specific provisions and partial write-offs.

101. In relation to an on-balance sheet exposure, an AI should use the current drawn amount of the exposure (for an exposure that is measured at fair value, the current drawn amount is the value determined in accordance with section 4A of the Rules), after taking into account the credit risk mitigating effect of any recognized netting (see Part XIII of this section), as an estimate of the EAD of the exposure such that the EAD of the exposure is not less than the sum of:

(i) the amount by which the AI's CET1 capital would be reduced if the exposure were fully written-off; and

(ii) any specific provisions and partial write-offs in respect of the exposure.

Where the amount by which an AI's estimate of EAD in respect of an exposure exceeds the sum of items (i) and (ii) of the exposure, this amount is termed a discount. The calculation of the risk-weighted amount should be independent of any discounts. In calculating the eligible provisions for the purpose of the EL-eligible provisions calculation as set out in Section C, any discounts attributed to defaulted exposures should be included.

102. In relation to the calculation of EAD of off-balance sheet exposures, an AI should refer to Part XII of this section.

***Effective Maturity* (M)**

(a) M under foundation IRB approach

103. For an AI using the foundation IRB approach for corporate, sovereign and bank exposures, M will be 2.5 years except for repo-style transactions where M will be 6 months[35].

(b) M under advanced IRB approach

104. An AI using the advanced IRB approach for corporate, sovereign and bank exposures is required to calculate M for each exposure. Subject to paragraph 105, M is defined as the greater of one year or the remaining effective maturity, in years, of the exposure as defined below:

(i) subject to items (ii), (iii) and (iv), for an exposure subject to a predetermined cash flow schedule, M is defined as:

$$M = \sum_t t * CF_t / \sum_t CF_t$$

where CF_t denotes cash flows (including principal, interest payments and fees) contractually payable by the obligor in period t. Period t is expressed in years (that is, where a payment is due to be received in 18 months, t = 1.5);

(ii) if the exposure is a default risk exposure in respect of a ***netting set*** calculated using the IMM(CCR) approach and the original maturity of the longest-dated

[35] With the prior consent of the MA, an AI using the foundation IRB approach may calculate M for each exposure in accordance with paragraphs 104 to 106 if the AI can demonstrate that it has adequate systems for doing so.

contract contained in the netting set is greater than one year, the M of the exposure is calculated by:

$$M = \frac{\sum_{k=1}^{t_k \le 1\,year} \text{Effective EE}_k \times \Delta t_k \times df_k + \sum_{t_k > 1\,year}^{maturity} EE_k \times \Delta t_k \times df_k}{\sum_{k=1}^{t_k \le 1\,year} \text{Effective EE}_k \times \Delta t_k \times df_k}$$

Where –

- df_k is the risk-free discount factor for future time period t_k;

- Effective EE_k = effective EE at time t_k calculated in accordance with section 226G of the Rules;

- *maturity* = the time when the transaction which has the longest residual maturity in the netting set matures; and

- $\Delta t_k = t_k - t_{k-1}$ is the time interval between t_k and t_{k-1} when EE is calculated at dates that are not equally spaced over time;

(iii) subject to item (iv),

- if the exposure is a default risk exposure in respect of a netting set calculated using the IMM(CCR) approach and all the transactions in the netting set have an original maturity of not more than one year, the effective maturity of each transaction in the netting set is calculated by the use of the formula under item (i), and the effective maturity of the netting set is calculated as the weighted average effective maturity of the transactions (using the ***notional amount*** of each transaction for weighting the maturity of the transactions within the netting set); and

- if the netting set referred to in the bullet above contains only one transaction, the M of the exposure is calculated by the use of the formula under item (i);

(iv) if it is not practicable for an AI to calculate M of the contracted payments in accordance with item (i) or (iii), the AI should use a more prudent measure of M which is not less than the maximum remaining time, in years, that the obligor is permitted to take to fully discharge its contractual obligations (including principal payments, interest payments and fees) under the terms of the agreement governing the exposure. This usually corresponds to the nominal maturity of the exposure; and

(v) subject to items (ii) and (iii), if an exposure is a default risk exposure resulting from the netting of ***nettable*** derivative contract, the M of the exposure is the greater of the weighted average maturity of the contracts (using the notional amount of each contract for weighting the maturity of the contracts) or one year.

In all cases, M will be no greater than five years.

105. The one-year floor does not apply to the following exposures:

(i) fully or almost fully collateralized capital market-driven transactions (i.e. derivative contracts or margin lending transactions), or repo-style transactions with an original maturity of less than one year, where the documentation for the contract or transaction contains clauses requiring daily revaluation or re-margining and allowing for the prompt realization or set-off of the collateral in the event of default or failure to revalue or re-margin, as the case may be; and

(ii) exposures with an original maturity of less than one year which are not part of an AI's ongoing financing (i.e. there being no intent or legal obligation to roll over the exposure concerned in the future) of the obligor. These exposures include:

- short-term self-liquidating trade transactions (such as an import or export letter of credit, or any similar transaction, which can be accounted for at its actual remaining maturity);

- securities purchases or sales, cash settlement by wire transfer, foreign exchange settlement, or any other exposures arising from unsettled transactions that are entered into on a basis other than a delivery-versus-payment basis, provided that such exposures do not continue for five ***business days*** or more after the settlement date; and

- any other short-term exposures that an AI demonstrates to the satisfaction of the MA that the AI has no intent or legal obligation to roll over such exposures and will not, in practice, roll over the exposures.

M of these exposures is calculated as the greater of one day or that measured in accordance with paragraph 104(i) or (iv).

106. Where an exposure of an AI is in respect of a netting set in which all the contracts or transactions fall within the description in paragraph 105(i) :

(i) subject to items (ii) and (iii), the AI must calculate the M of the exposure in accordance with paragraph 104(v) except that the M need not be equal to or greater than one year;

(ii) subject to item (iii), if the exposure is a default risk exposure calculated using the IMM(CCR) approach, the AI must calculate the M in accordance with paragraph 104(iii) except that the M need not be equal to or greater than one year; and

(iii) in determining the M, the AI must apply a minimum level of M equal to –

(a) 10 days for a netting set that contains derivative contracts or margin lending transactions;

(b) 5 days for a netting set that contains repo-style transactions; and

(c) 10 days for a netting set that contains transactions or contracts that fall within both items (a) and (b).

(c) M under the double default framework

107. For hedged exposures that are subject to the double default framework, M_{os} of the exposure should be the greater of:

(i) one year; or

(ii) the M of the credit protection in respect of the hedged exposure as calculated in accordance with paragraph 104.

V. Retail Exposures

(A) Risk-weight Function for Derivation of Risk-weighted Amount

108. There are three separate risk-weight functions for retail exposures as set out in paragraphs 109 to 111. The risk-weights for retail exposures are based on separate assessments of PD and LGD as inputs to the risk-weight functions. The calculation of the risk-weighted amount for retail exposures does not require the input of M.

(a) Non-defaulted exposures

RM

109. For retail exposures which fall within the IRB subclass of RM to individuals (see paragraph 24) or RM to property-holding shell companies (see paragraph 25) that are not in default (whether secured or partially secured[36]), the risk-weighted amount is calculated as follows:

Correlation (R) = 0.15

Capital charge factor (K)

$= \text{LGD} \times N[(1 - R)^{-0.5} \times G(\text{PD}) + (R / (1 - R))^{0.5} \times G(0.999)] - \text{PD} \times \text{LGD}$

Risk-weight (RW) = K x 12.5

Risk-weighted amount = RW x EAD

QRRE

110. For retail exposures which fall within the IRB subclass of QRRE (see paragraph 26)

[36] This means that the risk-weight also applies to the unsecured portion of such RMs.

that are not in default, the risk-weighted amount is calculated as below:

Correlation (R) = 0.04

Capital charge factor (K)

= LGD × N[(1 - R)^-0.5 × G (PD) + (R / (1 - R))^0.5 × G (0.999)] - PD x LGD

Risk-weight (RW) = K x 12.5

Risk-weighted amount = RW x EAD

<u>Small Business Retail Exposures and Other Retail Exposures to Individuals</u>

111. For retail exposures which fall within the IRB subclasses of small business retail exposures[37] (see paragraph 27) or other retail exposures to individuals (see paragraph 28) that are not in default, the risk-weighted amount is calculated as below:

Correlation (R)[38]

= 0.03 × (1 - EXP (-35 × PD)) / (1 - EXP (-35)) + 0.16 × [1 - (1 - EXP (-35 × PD)) / (1 - EXP (-35))]

Capital charge factor (K)

= LGD × N[(1 - R)^-0.5 × G (PD) + (R / (1 - R))^0.5 × G (0.999)] - PD x LGD

Risk-weight (RW) = K x 12.5

Risk-weighted amount = RW x EAD

<u>(b) Defaulted exposures</u>

112. An AI should use the same risk-weight function set out in paragraph 109, 110 or 111, as the case may be, to calculate the risk-weighted amount of a retail exposure which is in default (i.e. a default of the obligor in respect of the exposure has occurred by virtue of section 149(1) or (5A) of the Rules), except that the capital charge factor (K) for a defaulted retail exposure should be equal to the greater of:

(i) zero; or

(ii) the figure resulting from the subtraction of the AI's best estimate of the EL from the LGD of the exposure.

---

[37] Where an AI intends to apply a double default framework to small business retail exposures, such exposures should be re-classified as corporate exposures because they should no longer be managed on a pooled or portfolio basis.

[38] Correlation (R) is allowed to vary with PD.

(B) Credit Risk Components

Probability of Default (PD) and Loss Given Default (LGD)

113. For each identified pool of retail exposures, an AI using the retail IRB approach should provide an estimate of the PD and LGD associated with the pool. The PD for a retail exposure is the greater of the PD associated with the pool to which the retail exposure is assigned or 0.03%. The PD of a retail exposure assigned to a default pool is 100%.

114. Owing to the potential for a very long run cycle in property prices which even comparatively long runs of data may not adequately capture, the estimate of LGD of a retail exposure which falls within the IRB subclass of RM to individuals or RM to property-holding shell companies cannot be set below 10%[39].

Exposure at Default (EAD)

115. The EAD of an exposure is measured without deduction of specific provisions and partial write-offs.

116. In relation to an on-balance sheet exposure, an AI should use the current drawn amount of the exposure (for an exposure that is measured at fair value, the current drawn amount is the value determined in accordance with section 4A of the Rules), after taking into account the credit risk mitigating effect of any recognized netting (see Part XIII of this section), as an estimate of the EAD of the exposure such that the EAD of the exposure is not less than the sum of:

    (i) the amount by which an AI's CET1 capital would be reduced if the exposure were fully written-off; and

    (ii) any specific provisions and partial write-offs in respect of the exposure.

    Where the amount by which an AI's estimate of EAD in respect of an exposure exceeds the sum of items (i) and (ii) of the exposure, this amount is termed a discount. The calculation of the risk-weighted amount should be independent of any discounts. In calculating the eligible provisions for the purpose of the EL-eligible provisions calculation as set out in Section C, any discounts attributed to defaulted exposures should be included.

117. In relation to the calculation of EAD of off-balance sheet exposures, an AI should refer to Part XII of this section.

---

[39] The 10% LGD floor should not apply, however, to sub-segments that are subject to, or benefit from, recognized guarantees issued by sovereigns. Furthermore, the existence of the floor does not imply any waiver of the requirements of LGD estimation.

VI. Equity Exposures

(A) Derivation of Risk-weighted Amount

118. An AI is allowed to use either the market-based approach or the PD/LGD approach to calculate the risk-weighted amount of its equity exposures held in the banking book, subject to fulfilling the relevant requirements set out in the Rules including paragraphs 119 and 120 below. In addition, the AI should demonstrate to the satisfaction of the MA that the approach employed:

   (i) is appropriate for the AI's portfolios of equity exposures;

   (ii) is applied consistently to those portfolios; and

   (iii) is not used for the purpose of ***regulatory capital arbitrage***.

119. Subject to section 43(1)(n) of the Rules, where the net book value of an AI's holdings referred to in subparagraph (i) or (ii) below exceeds 15% of the capital base of the AI as reported in its Form MA(BS)3 as at the immediately preceding calendar quarter end date, the AI must allocate a risk-weight of 1250% to the EAD of that amount of the net book value of the holdings that exceeds that 15% in the calculation of the risk-weighted amount of that portion of the equity exposure –

   (i) the AI's holdings of shares in any ***commercial entity*** if the holdings amount to more than 10% of the ordinary shares issued by that commercial entity; and

   (ii) the AI's holdings of shares in any commercial entity if that entity is an ***affiliate*** of the AI.

120. An AI must calculate the risk-weighted amount of an equity exposure to a financial sector entity that is a ***significant LAC investment*** by multiplying that portion of the EAD of the equity exposure that is not subject to deduction from the AI's CET1 capital under section 43(1)(p) of the Rules by a risk-weight of 250%.

121. An AI's holding of any ***insignificant LAC investment*** and ***non-capital LAC liability*** falling within section 48A of the Rules which are not subject to deduction from any of the AI's CET1 capital, Additional Tier 1 capital and Tier 2 capital under sections 43(1)(o), 47(1)(c), 48(1)(c) and 48(1)(g) of the Rules must be risk-weighted in accordance with this Part.

(a) Market-based approach

122. Under this approach, an AI is permitted to calculate the risk-weighted amount of its equity exposures held in the banking book using one or both of the following two separate and distinct methods:

(i) Simple risk-weight method

A 300% risk-weight is to be applied to equity exposure in a publicly traded company (being an equity security traded on a ***recognized exchange***) and a 400% risk-weight is to be applied to all other equity exposures.

Short positions in an equity exposure (including derivative instruments) held in the banking book are permitted to offset long positions in the same equity exposure, provided that these short positions have been explicitly designated as a hedge of the long positions in that equity exposure and that they have a remaining maturity of at least one year. Other short positions (including the net short position remains after the set-off) are to be treated as if they were long positions with the relevant risk-weight applied to the absolute value of each position. In the context of maturity mismatched positions, the treatment is set out in paragraphs 223 to 225.

(ii) Internal models method

An AI may use its ***internal model***s to calculate the risk-weighted amount of its equity exposures, subject to fulfilling the relevant requirements set out in the Rules. Under this method, the AI should calculate the risk-weighted amount of its equity exposures by multiplying the potential loss of its equity exposures as derived by using its internal models (e.g. VaR models) subject to the one-tailed 99% ***confidence interval*** of the difference between quarterly returns of the exposures and an appropriate risk-free rate computed over a long-term observation period (i.e. not less than three years) by 12.5.

The risk-weighted amount calculated under the internal models method should be no less than the risk-weighted amount calculated under the simple risk-weight method using a 200% risk-weight for equity exposure in a publicly traded company and a 300% risk-weight for all other equity exposures. Such minimum risk-weighted amount should be calculated separately using the simple risk-weight method at individual exposure level rather than at portfolio level.

123. An AI may use more than one market-based approach for its different equity portfolios[40], provided that the AI can demonstrate to the satisfaction of the MA that:

(i) this is justified having regard to the respective risk profiles of the portfolios; and

(ii) the AI uses different risk assessment methods for the portfolios in its internal risk management functions.

[40] For example, the AI may apply the simple risk-weight method to its non-listed equity exposures while the internal models method to its listed equity exposures.

(b) PD/LGD approach

124. The minimum requirements and methodology for calculating the risk-weighted amount of equity exposures under the PD/LGD approach are the same as those for the foundation IRB approach for corporate exposures, except that:

(i) the EAD in respect of an equity exposure should be determined in accordance with paragraphs 132 to 134;

(ii) if the AI has an equity exposure to a corporate but does not have a debt exposure to that corporate such that the AI does not have sufficient information on the corporate for the application of the prescribed default criteria[41] as set out in the Rules, the AI should calculate the risk-weighted amount of the equity exposure such that:

- if the EAD of the AI's equity exposures to the corporate is not more than 15% of the AI's total equity exposures, the AI calculates the risk-weighted amount of the equity exposure by multiplying the EAD of the exposure by the product of the risk-weight as derived from using the risk-weight function set out in paragraph 60 (where applicable, adjusted in accordance with paragraph 66 in respect of exposures to SME corporates or in accordance with paragraph 67 in respect of exposures to financial institutions that are subject to the asset value correlation multiplier) and a factor of 1.5;

- if the EAD of the AI's equity exposures to the corporate exceeds 15% of the AI's total equity exposures, the AI applies the simple risk-weight method set out in paragraph 122(i);

(iii) an LGD of 90%[42] is assumed for deriving the risk-weight of an equity exposure; and

(iv) M is assumed to be five years.

125. When estimating the PD for an obligor that is highly leveraged or whose assets are predominantly traded assets, ensure such estimate reflects the performance of the obligor's assets based on volatilities calibrated to data from periods of significant financial stress (also see paragraph 83).

126. Hedging for equity exposures under the PD/LGD approach is subject to an LGD of 90% in respect of the exposure to the seller of the hedge. For this purpose, equity exposures will be treated as having a five-year maturity.

127. Under the PD/LGD approach, when the sum of UL and EL in respect of an equity exposure results in lesser capital than would be required from application of one of

---

[41] In practice, if there are both an equity exposure and a debt exposure to the same counterparty, a default on the debt exposure would thus trigger a simultaneous default for regulatory purposes on the equity exposure.

[42] There is no advanced approach for equity exposures.

the minimum risk-weights set out in paragraphs 128 and 129, the minimum risk-weights should be used. In other words, the minimum risk-weight should be applied, if the risk-weight calculated according to paragraph 124 plus the EL in respect of an equity exposure (i.e. EL for non-defaulted exposures = PD x LGD while EL for defaulted exposures = an AI's best estimate of EL) multiplied by 12.5 is less than the minimum risk-weight applicable to the exposure.

128. A minimum risk-weight of 100% applies to the following types of equity exposures as long as the portfolio is managed in the manner outlined below:

(i) publicly traded equity exposures held for long-term investment – equity exposures in publicly traded companies where the investment is part of a long-term customer relationship, any capital gains are not expected to be realized in the short-term in accordance with the AI's investment policy and there is no anticipation of above trend capital gains in the long-term. It is expected that in almost all cases, the AI will have lending and/or general banking relationships with the portfolio company so that the estimated PD is readily available. Given their long-term nature, specification of an appropriate holding period for such investments merits careful consideration. In general, the AI is expected to hold the equity over the long-term (at least five years); and

(ii) privately owned equity exposures held for long-term investment – equity exposures in privately owned companies where the returns on the exposures are based on regular and periodic cash flows not derived from capital gains and there is no expectation of future above trend capital gain, or realization of any existing gain in the short-term, in accordance with the AI's investment policy.

129. For all other equity positions, including net short positions (see paragraph 122(i)), the minimum risk-weights are 200% for publicly traded equity exposures and 300% for all other equity exposures.

130. A risk-weight of 1250% must be applied if the risk-weight calculated in accordance with paragraph 124 plus the EL in respect of an equity exposure multiplied by 12.5 exceeds 1250%.

131. An AI must allocate a risk-weight of 1250% to the EL amount of the equity exposures subject to the PD/LGD approach as determined in accordance with section 223 of the Rules, and add the product of the 2 items to the risk-weighted amount of the AI's equity exposures.

(B) Credit Risk Components

Exposure at Default (EAD)

132. In general, the measure of EAD for an equity exposure, on which the calculation of the risk-weighted amount is based, is:

(i) if the equity exposure is measured at fair value, the value determined in accordance with section 4A of the Rules; and

(ii) if the equity exposure is not measured at fair value, the cost presented on the balance sheet.

133. Holdings in a collective investment scheme which contains investments which would constitute both equity exposures and non-equity exposures can be treated, in a consistent manner, either as a single investment based on the majority of the scheme's investments, or, where possible, as separate and distinct investments in the scheme's component investments based on a look-through approach.

134. Where only the investment mandate of the collective investment scheme is known, the scheme can still be treated as a single investment. For this purpose, it is assumed that the scheme first invests, to the maximum extent allowed under its mandate, in investments which would constitute exposures falling within the IRB class attracting the highest ***capital charge*** of all the investments permissible under the scheme's investment mandate, and then continues making investments which would constitute exposures falling within other IRB classes in descending order of the level of the capital charge required in respect of such exposures.

VII. Other Exposures

(A) Cash Items

135. The risk-weighted amount of cash items is calculated by multiplying the EAD (i.e., the principal amount) of each item by an applicable risk-weight as specified below:

	Cash items	Risk-weight
1.	**Notes and coins** *This item includes all notes and coins that are the lawful currency of a jurisdiction.*	0%
2.	**Government certificates of indebtedness** *This item represents the certificates of indebtedness issued by the HKSAR Government for the issue of legal tender notes.*	0%
3.	**Gold bullion held in own vault or on an allocated basis, to the extent backed by gold liabilities** *This item includes all gold bullion held by the AI or held by another person for the AI on an allocated basis, to the extent backed by gold bullion liabilities. Gold bullion held by the AI for other persons should not be reported. Gold bullion held by another person for the AI on an <u>unallocated</u> basis, although backed by the AI's gold bullion liabilities, should be treated as an exposure to a counterparty and risk-weighted according to the*	0%

	Cash items	Risk-weight
	IRB class/subclass to which that counterparty belongs.	
4.	**Gold bullion held not backed by gold liabilities** *This item includes all gold bullion held by the AI or held by another person for the AI, to the extent not backed by the AI's gold bullion liabilities.*	100%
5.	**Cash items in the course of collection**	
	(a) This item includes all cheques, drafts and other items drawn on other banks that are payable to the account of the AI immediately upon presentation and that are in the process of collection. Included are cheques and drafts against which the AI has purchased or discounted the cheques presented by its customer and in respect of which the AI is now seeking payment from the drawee bank.	20%
	(b) Unsettled clearing items that are being processed through any interbank clearing system in Hong Kong and receivables from transactions in securities (other than repo-style transactions), foreign exchange, and commodities which are not yet due for settlement should, however, be subject to a risk-weight of 0%.	0%
	Import and export trade bills held by the AI that are in the process of collection should not be included in cash items but should be risk-weighted according to the IRB class/subclass to which the counterparty belongs.	
6.	**Positive current exposures from delivery-versus-payment transactions which remain unsettled after the settlement date**	
	(a) for up to 4 business days	0%
	(b) for 5 to 15 business days	100%
	(c) for 16 to 30 business days	625%
	(d) for 31 to 45 business days	937.5%
	(e) for 46 or more business days	1250%
	*This item refers to any **positive current exposure** arising from transactions in securities (other than repo-style transactions), foreign exchange and commodities entered into on a **delivery-versus-payment** (DvP) **basis** where payment/delivery has not yet taken place after the settlement date.*	
7.	**Amount due from transactions entered into on a basis other than a DvP basis** (non-DvP transactions) **and which remain unsettled for up to 4 business days after the settlement date (for non-significant amount only)**	100%

	Cash items	Risk-weight
	This item refers to any non-DvP transaction where an AI has made payment/delivery to a counterparty but payment/delivery from the counterparty has not yet taken place up to and including the fourth business day after the settlement date. Such transactions should be treated as a loan provided by the AI to the counterparty and risk-weighted according to the IRB class/subclass to which that counterparty belongs. The EAD of such transactions should be the amount of the payment made or the current market value of the thing delivered by the AI, plus any positive current exposure associated with the transactions. However, if the EAD of a transaction is immaterial (i.e. less than HK$10 million), the AI may choose to report such exposures under this item and apply a uniform 100% risk-weight to them in order to avoid performing a full credit assessment.	
8.	**Amount due from transactions entered into on a basis other than a DvP basis and which remain unsettled for 5 or more business days after the settlement date** *This item refers to any non-DvP transactions in securities (other than repo-style transactions), or transactions in foreign exchange and commodities, that have remained unsettled after the contractual date of payment or delivery to the AI for 5 or more business days. The EAD of such transactions should be the amounts of payment made or the current market value of the thing delivered by the AI, plus any positive current exposure associated with the transactions.*	1250%

(B) Other Items

136. The risk-weighted amount of other items is calculated by multiplying the EAD (i.e. the principal amount) of each item by a uniform risk-weight of 100%, or a higher risk-weight specified by the MA if the MA is of the view that a particular exposure item poses a higher risk to the AI.

	Other items	Risk-weight
1.	**Premises, plant and equipment, other fixed assets for own use, and other interest in land and buildings** *This item includes investments in premises, plant and equipment and all other fixed assets of the AI which are held for own use and* a right-of-use asset recognized by the AI as a lessee in accordance with the prevailing accounting standards issued by Hong Kong Institute of Certified Public Accountants where the asset leased is a tangible asset. *Other*	100% unless otherwise specified by the MA

	Other items	Risk-weight
	interest in land which are not occupied or used in the operation of the AI's business should also be reported here.	
2.	**Exposures subject to the IRB approach which are not elsewhere specified** *This item includes exposures that are not classified under the IRB class of corporate, sovereign, bank, retail or equity exposures or the IRB subclass of cash items.*	100% unless otherwise specified by the MA

VIII. Purchased Receivables

(A) Derivation of Risk-weighted Amount for Default Risk

137. Purchased receivables should be classified as retail or corporate exposures, according to the nature of the receivables. For receivables belonging unambiguously to one IRB subclass, the risk-weight for default risk is based on the risk-weight function applicable to that particular IRB subclass, as long as the AI can meet the relevant requirements for the use of that particular risk-weight function. For example, if an AI cannot comply with the criteria for QRRE (see paragraph 26), the AI should use the risk-weight function for other retail exposures to individuals (see paragraph 28). Where an AI purchases a hybrid pool of receivables containing a mixture of exposures, the AI should, if it cannot separate the receivables into different IRB subclasses, apply the risk-weight function that will result in the highest risk-weighted amount of the exposures in the pool of purchased receivables.

(a) Purchased retail receivables

138. An AI may use the "top-down" approach to its purchased retail receivables as for other retail exposures (i.e. estimation of credit risk components on a pooled basis), provided that it meets the relevant requirements for retail exposures as set out in the Rules, and, in the case of calculation of default risk, it meets the requirements referred to in section 200(d) of the Rules. The AI may utilize external and internal reference data to estimate the PD and LGD in respect of its purchased retail receivables at the pool level (i.e. the AI is not required to estimate PDs and LGDs or EL for individual retail receivables within the pool). The estimates for PD and LGD (or EL) should be calculated for the purchased retail receivables on a stand-alone basis, that is, without regard to any recourse to, or guarantees from, the seller or other parties.

(b) Purchased corporate receivables

139. An AI which purchases corporate receivables should use the "bottom-up" approach to estimate the credit risk components for individual receivables for the calculation of

the risk-weighted amount (i.e. consistent with the treatment of the AI's corporate exposures). In other words, the AI is not allowed to use the "top-down" approach to its purchased corporate receivables. The estimates for PD and LGD (or EL) should be calculated for each of the purchased corporate receivables on a stand-alone basis, that is, without regard to any recourse to, or guarantees from, the seller or other parties.

(B) Derivation of Risk-weighted Amount for Dilution Risk

140. Dilution refers to the possibility that the amount of a receivable is reduced through cash or non-cash credits to the receivable's obligor[43]. The following treatment of dilution risk will be applied regardless of whether the purchased receivables are corporate or retail exposures.

141. Unless an AI can demonstrate to the satisfaction of the MA that the dilution risk it faces is immaterial, the AI should calculate the risk-weighted amount for dilution risk in respect of both purchased corporate and retail receivables as follows:

(i) at the level of either the pool as a whole (the "top-down" approach) or the individual receivables making up the pool (the "bottom-up" approach), the purchasing AI has to estimate the one-year EL for dilution risk (expressed as a percentage of the EAD of the purchased receivables); and

(ii) as with the treatment for default risk, the estimate of dilution risk should be computed on a stand-alone basis, that is, without regard to any recourse to, or guarantees from, the seller or other parties.

142. For the purpose of calculating the risk-weighted amount for dilution risk, the risk-weight function for corporate exposures set out in paragraph 60 (and where applicable, adjusted in accordance with paragraph 66 in respect of SME corporates; paragraph 67 in respect of exposures to financial institutions that are subject to the asset value correlation multiplier; or paragraph 73(i) in respect of HVCRE exposures) should be used as follows:

(i) PD should be set equal to the AI's estimate of EL for dilution risk;

(ii) LGD should be set at 100%; and

(iii) M is determined in accordance with:
- in the case of purchased corporate receivables, paragraph 103 if the AI uses the foundation IRB approach, or paragraphs 104 to 106 if the AI uses the advanced IRB approach;
- in the case of purchased retail receivables, paragraphs 104 to 106.

[43] Examples include offsets or allowances arising from returns of goods sold, disputes regarding product quality, possible debts of the borrower to a receivable's obligor, and any payment or promotional discounts offered by the borrower (e.g. a credit for cash payments within 30 days).

If an AI can demonstrate to the satisfaction of the MA that the AI's dilution risk in respect of its purchased receivables is monitored and managed by the AI with a view to the risk being resolved within one year after the purchase, the AI may set M at one year.

IX. Leasing Transactions

(A) Leases without Residual Value Risk

143. Exposures arising from leasing arrangements, other than those exposing the AI to residual value risk (see paragraph 144), should be treated as exposures secured by the leased assets. An AI may recognize the credit risk mitigating effect of the leased assets as recognized collateral if the relevant requirements set out in the Rules are met.

(B) Leases with Residual Value Risk

144. Exposures arising from leasing arrangements that expose the AI to residual value risk should be treated as follows:

(i) risk-weighted amount for default risk – an AI should calculate the risk-weighted amount for default risk in respect of the exposure by multiplying the discounted lease payment stream (i.e. EAD) by a risk-weight derived by using the risk-weight function applicable to the IRB subclass within which an exposure to the lessee falls (the PD and LGD as those which the AI assigns to the exposure); and

(ii) risk-weighted amount for residual value risk – an AI should calculate the risk-weighted amount for residual value risk in respect of the exposure by multiplying the residual value of the leased asset by a risk-weight of 100%.

X. Securities Financing Transactions

145. Subject to paragraphs 146, 147 and 148, the credit exposures to assets underlying securities financing transactions (SFTs) booked in the banking book or trading book of AIs should be risk-weighted using the "economic substance" approach as described below, and reported in Divisions B, C and F (if the securities are non-securitization exposures) or Form MA(BS)3(IIId) (if the securities are securitization exposures) as appropriate:

(a) *repos of securities* **-** where an AI has sold securities under repo agreements, the securities sold should continue to be treated as assets on the balance sheet of the AI, with ***regulatory capital*** provided for the credit exposure to the securities (see also sections 75(2), 76(2)(a) and 202(4) and (5) of the Rules);

(b) *reverse repos of securities* - where an AI has acquired securities under reverse repo agreements, no regulatory capital is required for the money paid by the AI;

(c) *securities lending* - the treatment is similar to that of repo transactions. The securities lent should continue to remain as assets on the balance sheet of the AI, with regulatory capital provided for the credit exposure to the securities (see also sections 75(2), 76(2)(a) and 202(4) and (5) of the Rules); and

(d) *securities borrowing* - where the collateral provided is not cash but securities, those securities should continue to remain as assets on the balance sheet of the AI, with regulatory capital provided for the credit exposure to those securities (see also sections 75(4)(b), 76(2)(b) and 202(4) and (5) of the Rules).

146. If the securities underlying the SFTs are ***securitization issues***, the AI should determine the risk-weight attributable to the securities in accordance with Part 7 of the Rules (see also section 75(5) of the Rules) and report the securities in Form MA(BS)3(IIId) accordingly.

147. Where an AI applies section 75 of the Rules to an SFT booked in its banking book, the AI must determine the risk-weight to be allocated to its exposure under the SFT in accordance with—

(a) the risk-weight function for corporate, sovereign and bank exposures;

(b) the risk-weight function for retail exposures; or

(c) the market-based approach or the PD/LGD approach for equity exposures,

as the case may be, according to the nature of the asset underlying the SFT, and, where applicable, the IRB class within which the issuer of the asset falls.

148. An exposure of an AI to the asset underlying a specified SFT as defined in section 76(2) of the Rules is an exposure subject to the requirements of Part 8 of the Rules instead.

149. Subject to paragraph 150, the default risk exposures in respect of SFTs (including centrally cleared trades that are treated as bilateral trades) booked in the banking book or trading book of AIs and the associated risk-weighted amount are determined in the following manner:

(a) AIs with the MA's approval to use the IMM(CCR) approach to calculate the default risk exposures in respect of SFTs (and also any LST arising from those transactions where covered by the IMM(CCR) approval) should report the exposures in Form IRB_OBSD_IMM. The instructions set out in paragraphs 174 to 177 on the use of the IMM(CCR) approach in respect of derivative contracts apply to SFTs (see also section 202(2) of the Rules);

(b) AIs that do not have an IMM(CCR) approval to calculate the default risk exposures in respect of SFTs should calculate the exposures in accordance with

Division 2B of Part 6A and report the exposures in Form IRB_OBSD_SFT_N_IMM.

150. Subject to paragraph 151, where an AI applies Division 2 or 2B of Part 6A of the Rules, as the case requires, to an SFT, the AI must determine the risk-weight to be allocated to its exposure under the SFT in accordance with—

(a) the risk-weight function for corporate, sovereign and bank exposures; or

(b) the risk-weight function for retail exposures,

as the case may be, according to the IRB class within which an exposure to the counterparty to the SFT falls and, where applicable, in accordance with the treatment of credit risk mitigation set out in Division 10 of Part 6 of the Rules.

151. For LSTs arising from SFTs, an AI may determine the relevant risk-weight using the STC approach on a permanent basis.

152. The SFT risk-weighted amount of an AI referred to in paragraph 42(iii) is the sum of the default risk risk-weighted amounts for all counterparties to the SFTs of the AI where the default risk risk-weighted amount for each of the counterparties is calculated as the sum of the risk-weighted amounts of the default risk exposures across all the SFTs with the counterparty calculated in accordance with section 202 of the Rules.

XI. Credit-linked Notes

153. Where an AI issues a credit-linked note to cover the credit risk of an ***underlying exposure*** (i.e. the AI buys credit protection), the maximum amount of protection is the amount of the funds received from issuing that note. The protected amount should be treated as an exposure collateralized by cash deposits while the remaining unprotected amount, if any, should be treated as an exposure to the issuer of the underlying asset.

154. When an AI buys a credit-linked note (i.e. the AI sells credit protection), it acquires credit exposure on two fronts, to the reference obligation(s) of the note and also to the note issuer. A credit-linked note held by the AI, which is an on-balance sheet exposure, should be allocated a risk-weight, as determined by the applicable risk-weight function, which is the higher of the risk-weight attributable to the reference obligation(s) of the note as if the AI had a direct exposure to the reference obligation(s), or the risk-weight attributable to the note. However, an AI is not required to provide regulatory capital for its exposure to a credit-linked note held by it in excess of the institution's maximum liability under the note.

XII. Calculation of Risk-weighted Amount of Off-balance Sheet Exposures

(A) Classification of Off-balance Sheet Exposures

155. An AI is required to categorize its off-balance sheet exposures into one of the following two types:

(i) off-balance sheet exposures (other than default risk exposures in respect of derivative contracts and SFTs) in the banking book;

(ii) default risk exposures in respect of derivative contracts and SFTs in both the banking book and trading book.

(B) Derivation of Risk-weighted Amount of Off-balance Sheet Exposures

156. Except as specified in paragraphs 158 and 159, for the calculation of the risk-weighted amount of off-balance sheet exposures, an AI should:

(i) convert an off-balance sheet exposure into credit equivalent amount (i.e. EAD) by:

- applying an applicable ***credit conversion factor*** (***CCF***) to the principal amount of the off-balance sheet exposure (other than derivative contracts and SFTs) in the banking book; and
- using the IMM(CCR) approach, the SA-CCR approach or the methods referred to in section 10A(1)(b) of the Rules, as permitted under the Rules, in respect of the derivative contract and SFT, as the case may be (the resultant EAD estimate is termed "default risk exposure"); and

(ii) multiply the credit equivalent amount of the off-balance sheet exposure by an applicable risk-weight.

157. This Part focuses on instructions for the calculation of risk-weighted amount of the default risk exposure of derivative contracts using the IMM(CCR) approach or the SA-CCR approach but include SFTs where specified. For specific instructions for the calculation of risk-weighted amount of the default risk exposures in respect of SFTs, an AI should refer to paragraph 149(a) for those that are subject to the IMM(CCR) approach, and paragraph 149(b) for those that are not.

158. For LSTs arising from derivative contracts or SFTs, an AI may determine the relevant risk-weight using the STC approach on a permanent basis.

159. If an AI issues a credit-linked note to cover a default risk exposure, the amount of the proceeds received from the issuance of the credit-linked note should not be included in the calculation of the amount of the default risk exposure under Division 1A, 2 or 2B of Part 6A of the Rules.

160. Under the SA-CCR approach and the IMM(CCR) approach, the default risk exposures of credit derivative contracts falling within the following categories can be regarded as zero:

(i) Credit default swaps that have been reported as "direct credit substitutes" in item 1 of Division D (i.e. the AI has already held capital against the credit risk of the reference obligations underlying the swaps);

(ii) Recognized credit derivative contracts held by the AI as protection buyer in respect of which the CRM effects have already been taken into account in accordance with Division 10 of Part 6 of the Rules for the purposes of risk-weighted amount calculation.

Off-balance Sheet Exposures (Other than Default Risk Exposures in respect of Derivative Contracts and SFTs)

(a) *CCFs and EAD*

161. An AI should classify each of its off-balance sheet exposures (other than default risk exposures) in the banking book as one of the following items:

	Off-balance sheet exposures (other than default risk exposures) in the banking book	**CCF**		
		Corporate/Sovereign/Bank exposures		**Retail exposures**
		FIRB approach	**AIRB approach**	**Retail IRB approach**
1.	***Direct credit substitutes***	100%	100%	Own estimate
2.	***Transaction-related contingencies***	50%	Own estimate	Own estimate
3.	***Trade-related contingencies***	20%	Own estimate	Own estimate
4.	***Asset sales with recourse***	100%	100%	Own estimate
5.	***Forward asset purchases***	100%	100%	Own estimate

	Off-balance sheet exposures (other than default risk exposures) in the banking book	CCF		
		Corporate/Sovereign/Bank exposures		Retail exposures
		FIRB approach	AIRB approach	Retail IRB approach
6.	***Partly paid-up securities*** (being an off-balance sheet exposure to the credit risk of the securities purchased from an issuer where only a part of the issue price or nominal face value of the securities has been paid by the institution and the institution will be required to pay the unpaid amount in the future) *In respect of partly paid-up equity shares, the unpaid portion of which an AI may be called upon by the issuer to pay should be subject to a CCF of 100% and reported under equity exposures, together with the paid-up portion.*	100%	100%	Own estimate
7.	***Forward forward deposits placed***[44]	100%	100%	Own estimate
8.	***Note issuance and revolving underwriting facilities***	75%	Own estimate	Own estimate
9.	***Commitments that are unconditionally cancellable without prior notice*** (i.e. off-balance sheet exposures that do not fall within any of items 1 to 8 and arise from commitments which may be cancelled at any time unconditionally by an AI or which provide for automatic cancellation due to a deterioration in the creditworthiness of the person to whom the commitment has been made[45]);	0%	Own estimate	Own estimate

[44] Where an AI has contracted to receive a deposit (i.e. forward forward deposits taken), failure to deliver by the counterparty may result in an unanticipated change in the AI's interest rate exposures and involve a replacement cost. Such exposure should thus be accorded the same treatment as interest rate contracts.

[45] Included in this item are those facilities that are unconditionally cancellable without prior notice by the AI other than for "force majeure" reasons, or that effectively provide for automatic cancellation due to deterioration

	Off-balance sheet exposures (other than default risk exposures) in the banking book	CCF		
		Corporate/Sovereign/Bank exposures		Retail exposures
		FIRB approach	AIRB approach	Retail IRB approach
10.	***Other commitments***			
	(a) Subject to paragraph (b), commitments which do not fall within item 9; and	75%	Own estimate	Own estimate
	(b) the drawdown of which will give rise to an off-balance sheet exposure falling within any of items 1 to 8 or item 11.	The lower of 75% or the CCF applicable to the off-balance sheet exposure arising from the drawdown of the commitment concerned	Own estimate	Own estimate
11.	***Others*** *This item includes any off-balance sheet exposure not classified as the above items.*	A CCF specified by the MA or 100%		

162. An AI using the advanced IRB approach for corporate, sovereign and bank exposures or the retail IRB approach for retail exposures is allowed to provide its own estimates of CCFs for off-balance sheet exposures as listed in paragraph 161.

163. For off-balance sheet exposures arising from unsegregated collateral posted to the counterparty by an AI, the AI using the foundation IRB approach should refer to section 163(2A) and (2B) of the Rules to estimate the EAD of the exposures, while the AI using the advanced IRB approach should refer to section 164(2)(b), (4) and (4A) of the Rules to estimate the EAD of the exposures.

164. For corporate, sovereign and bank exposures, the principal amount to which the CCF is applied is the lower of (i) the amount of the unused committed credit line or (ii) the amount that reflects any possible constraining availability of the facility (e.g. the existence of a ceiling on the potential lending amount subject to the borrower's reported cash flow). If the facility is constrained in this manner, the AI should have sufficient monitoring and management procedures to support this treatment.

---

in a borrower's creditworthiness. This also includes any revolving or undated/open-ended commitments, e.g. overdrafts or unused credit card lines, provided that these commitments can be unconditionally cancelled at any time and subject to credit review at least annually.

165. For retail exposures with an uncertain future drawdown (e.g. credit cards), an AI should take into account the drawdown and repayment history and expectation of additional drawings by the obligors prior to default in its overall calibration of loss estimates. In particular, where an AI does not reflect CCFs for undrawn lines in its EAD estimates, it should reflect in its LGD estimates the likelihood of additional drawings prior to default. Conversely, if an AI does not incorporate the possibility of additional drawings in its LGD estimates, it should do so in its EAD estimates.

166. When only the drawn balances of retail facilities have been securitized, an AI should ensure that it continues to hold required capital against its share (i.e. seller's interest) of undrawn balances related to the securitization exposures under the IRB approach. For determining the EAD associated with the seller's interest in the undrawn lines, the undrawn balances of securitization exposures will be allocated between the seller's and ***investors' interests*** on a pro rata basis, based on the proportion of the seller's and investors' shares of the securitized drawn balances.

167. For item 11 under paragraph 161, an AI should apply a CCF of 100%, unless a CCF applicable to the exposure is specified in Part 2 of Schedule 1 to the Rules.

(b) Calculation of risk-weighted amount

168. In calculating the risk-weighted amount of off-balance sheet exposures (other than default risk exposures) in the banking book, the applicable risk-weight to an exposure should be derived from the risk-weight function for the IRB class/subclass within which the exposure falls.

Default Risk Exposures in respect of Derivative Contracts (including centrally cleared trades that are treated as bilateral trades) using SA-CCR approach

(a) Calculation of EAD

169. An AI using the foundation IRB approach or the advanced IRB approach must determine the outstanding default risk exposures in respect of its derivative contracts booked in the banking book or trading book of the AI based on the default risk exposures calculated for the contracts by using the SA-CCR approach in accordance with Division 1A of Part 6A of the Rules.

170. The default risk exposure in respect of a derivative contract should be adjusted for the risk mitigating effects of any recognized netting (see paragraphs 191 to 192).

171. Where an AI enters into no less than one derivative contract with a counterparty, the applicable default risk exposure in respect of the transactions and contracts with that counterparty (the ***outstanding default risk exposure***) is the greater of:

(i) zero; or

(ii) the difference between –

(A) the sum of default risk exposures across all netting sets with the counterparty; and

(B) the ***CVA loss*** in respect of that counterparty.

(b) Calculation of risk-weighted amount

172. The SA-CCR risk-weighted amount in respect of derivative contracts of an AI is the sum of the default risk risk-weighted amounts for all the counterparties to the contracts where the default risk risk-weighted amount for each of the counterparties is calculated as the product of-

(i) the outstanding default risk exposure to the counterparty as calculated under paragraph 171; and

(ii) the applicable risk-weight to the exposure derived from the risk-weight function for the IRB class/subclass within which the counterparty of the exposure falls.

173. For the calculation of the risk-weighted amount for LSTs arising from derivative contracts, an AI may determine the relevant risk-weight using the STC approach on a permanent basis.

Default risk exposures in respect of derivative contracts and SFTs (including centrally cleared trades that are treated as bilateral trades) under the IMM(CCR) approach

(a) Calculation of EAD and risk-weighted amount

174. An AI may use the IMM(CCR) approach to calculate the default risk exposures in respect of bilateral trades (including centrally cleared trades that are treated as bilateral trades) arising from derivative contracts and SFTs (including any LST arising from those transactions or contracts) if it has an IMM(CCR) approval for those transactions, contracts or LSTs, as the case may be.

175. An AI must calculate -

(i) the portfolio-level risk-weighted amount of the relevant exposures based on current market data in accordance with sections 226D(1)(a) and (2)(a) of the Rules; and

(ii) the portfolio-level risk-weighted amount of the relevant exposures based on stress calibration in accordance with sections 226D(1)(b), (2)(b) and (3) of the Rules.

176. For the calculation of the risk-weighted amounts referred to in paragraph 175(i) and (ii) in respect of LSTs arising from derivative contracts and SFTs, an AI may

determine the relevant risk-weight using the STC approach on a permanent basis.

177. The higher of the portfolio-level risk-weighted amount calculated under paragraph 175(i) and (ii) is the ***IMM(CCR) risk-weighted amount*** in respect of the derivative contracts and SFTs of the AI that are covered by its IMM(CCR) approval. Accordingly, the default risk exposures of the derivative contracts and SFTs to be reported in Form IRB_OBSD_IMM are those calculated in accordance with sections 226E to 226M of the Rules that give rise to the IMM(CCR) risk-weighted amount (i.e. the higher of the number calculated under paragraph 175(i) and (ii)).

XIII. Credit Risk Mitigation

(A) General

178. Subject to paragraphs 180 and 181, under the IRB approach, an AI may take into account the effect of recognized credit risk mitigation in its calculation of risk-weighted amount of exposures, including:

(i) recognized collateral;

(ii) recognized netting; and

(iii) recognized guarantees and recognized credit derivative contracts.

179. The risk-weighted amount of an AI's exposure in respect of which recognized credit risk mitigation has been taken into account shall not be higher than that of an identical exposure in respect of which recognized credit risk mitigation has not been so taken into account.

180. An AI must not take into account the effect of recognized credit risk mitigation in accordance with Division 10 of Part 6 of the Rules in calculating the risk-weighted amount of its exposures to the extent that the credit risk mitigating effect concerned has already been taken into account in the AI's calculation of the risk-weighted amount for its exposures in accordance with the Rules other than that Division.

181. Where an AI has bought credit protection for an exposure and the credit protection is in the form of a single-name credit default swap that falls within section 226J(1) of the Rules, the AI must not take into account the credit risk mitigating effect of that swap when calculating the risk-weighted amount of the exposure.

(B) Capital Treatment of Recognized Collateral

182. Under the IRB approach, collateral is recognized through the determination of LGD (see paragraphs 84 to 97 for corporate, sovereign and bank exposures and paragraphs 113 and 114 for retail exposures).

183. An AI may take into account the credit risk mitigating effect of recognized collateral

in the calculation of the risk-weighted amounts of a default risk exposure only if either of the following is complied with in respect of the exposure:

(i) the exposure is in respect of an SFT that is not nettable calculated in accordance with section 226MJ of the Rules; or

(ii) the exposure is in respect of one or more than one derivative contract entered into by the AI with a counterparty and the conditions specified in section 204(3) of the Rules are met.

184. If the same recognized collateral is available to cover both default risk exposures and non-default risk exposures, an AI may take into account the credit risk mitigating effect of the recognized collateral for the purpose of calculating the risk-weighted amount of the non-default risk exposures only to the extent of the current market value, or the part of such value, of the collateral that is not included in the calculation of the default risk exposures under Division 1A or 2 of Part 6A of the Rules, and in accordance with other applicable provisions in Division 10 of Part 6 of the Rules relating to recognized collateral.

(C) Capital Treatment of Recognized Netting

(a) General

185. Subject to paragraph 199, where an AI is entitled pursuant to a valid bilateral netting agreement or valid cross-product netting agreement to net amounts owed by the AI to a counterparty against amounts owed by the counterparty to the AI, the AI may take into account the credit risk mitigating effect of the recognized netting in calculating the EAD of its exposure to the counterparty.

(b) EAD measurement for on-balance sheet netting

186. In respect of on-balance sheet exposures which fall within the IRB class of corporate, sovereign, bank, retail or other exposures, an AI may net the debit balances from the credit balances in the accounts of the same counterparty in accordance with the formula set out in paragraph 187 and report the net credit exposure amount as on-balance sheet exposures before recognized guarantees/credit derivative contracts.

187. Below is the formula for calculating the net credit exposure with a counterparty for on-balance sheet exposures, adjusted for the credit risk mitigating effect of a valid bilateral netting agreement:

$$\text{Net credit exposure} = \max [0, \text{exposures} - \text{liabilities} \times (1 - H_{fx})]$$

188. H_{fx} is the haircut to be applied in the case of a currency mismatch between exposures and liabilities, which is 8% assuming a ***minimum holding period*** of 10 business days, daily remargining and daily marking-to-market. It should be adjusted in accordance with section 92 of the Rules if a different minimum holding period is adopted, or the

exposure is not remargined or revalued daily as assumed.

189. Treatments for maturity mismatch in respect of on-balance sheet netting are set out in paragraphs 223 to 225.

190. In respect of sovereign exposures, the market makers of Exchange Fund Bills/Notes which have short positions in these instruments may report their net holdings, provided that the short positions are covered by the Sale and Repurchase Agreements with the HKMA. The following steps should be taken in determining the amount to be reported:

(i) the long and short positions of instruments with a residual maturity of under one year may be offset with each other;

(ii) the long and short positions of instruments with a residual maturity of one year and over may be offset with each other;

(iii) if the net positions of both items (i) and (ii) above are long, the positions should be reported; and

(iv) if the net position in item (i) is long and the net position in item (ii) is short, or the other way round, the positions can be netted with each other on a dollar for dollar basis. The resultant net long position, if any, should be reported.

(c) EAD measurement for netting of derivative contracts using the SA-CCR approach

191. An AI is allowed to net exposures arising from derivative contracts with the same counterparty, provided that such exposures are subject to a valid bilateral netting agreement. The netting agreement may cover only a single type or more than one type of contracts. The recognition of the credit risk mitigating effect of a ***valid cross-product netting agreement*** is only available in respect of an AI's transactions with a counterparty that are covered by an IMM(CCR) approval.

192. An AI is required to calculate an aggregate default risk exposure for derivative contracts subject to a valid bilateral netting arrangement in accordance with Division 1A of Part 6A of the Rules, as the case requires.

(d) EAD measurement for netting of repo-style transactions not under the IMM(CCR) approach

193. Where repo-style transactions are subject to a valid bilateral netting agreement, an AI may choose not to take into account the netting effects in calculating the risk-weighted amount for such transactions. In taking into account the credit risk mitigating effects of recognized netting for repo-style transactions, the AI should calculate the default risk exposure (E^*) using the formula below, and equate E^* as the default risk exposure before recognized guarantees/credit derivative contracts.

$$E^* = \text{Max}\ \{0, [(\sum (E) - \sum (C)) + \sum (E_s \text{ x } H_s) + \sum (E_{fx} \text{ x } H_{fx})]\}$$

where:

E^*	=	Default risk exposure
E	=	Current market value of all money and securities provided by the AI under the transactions
C	=	Current market value of all money and securities received by the AI under the transactions
E_s	=	Absolute value of the net position in the same securities
H_s	=	Standard supervisory haircut applicable to E_s subject to the adjustment set out in section 3 of Schedule 7 to the Rules
E_{fx}	=	Absolute value of the net position in a currency different from the settlement currency
H_{fx}	=	Standard supervisory haircut applicable in consequence of a currency mismatch, if any, between the currency in which a net position is denominated and the settlement currency subject to the adjustment set out in section 3 of Schedule 7 to the Rules

194. The AI should compare the aggregate market value of all money and securities provided with the aggregate market value of all money and securities received, taking into account haircuts in the formula specified in paragraph 193. Where the value calculated in accordance with the formula is greater than zero, the AI has a default risk exposure to the counterparty for which capital requirement should be provided.

195. For appropriate values of haircuts to be applied, the AI should refer to Schedule 7 to the Rules, which set out the standard supervisory haircuts and the circumstances requiring haircut adjustments under the comprehensive approach to treatment of collateral under the STC approach. As under the STC approach, a haircut of 0% may be applied for repo-style transactions where the criteria specified under section 82(2) of the Rules are satisfied.

196. In general, repo-style transactions in the banking book and the trading book should be netted separately. Netting across positions in different books with the same counterparty will only be allowed if:

   (i) all transactions are marked-to-market daily; and

   (ii) the collateral used in the transactions is recognized collateral for transactions booked in the banking book.

197. Where the AI has been approved for using internal models to measure market risk for capital adequacy purposes, it may, subject to the prior consent of the MA, use a VaR approach as an alternative to the use of standard supervisory haircuts, to reflect the price volatility of the exposure and collateral for repo-style transactions covered by valid bilateral netting agreements on a counterparty-by-counterparty basis. The criteria for using the VaR approach and the related capital treatments are set out in section 226ML of the Rules.

198. For corporate, sovereign and bank exposures under the foundation IRB approach, the impact of collateral on these repo-style transactions may not be reflected through an adjustment to LGD. Under the advanced IRB approach, own LGD estimates would be permitted for the default risk exposure (E^*) to the counterparty. The risk-weight of the default risk exposure will be determined using the risk-weight function applicable for that particular IRB class/subclass. For LSTs arising from repo-style transactions, an AI may determine the relevant risk-weight using the STC approach on a permanent basis.

(e) EAD measurement for netting of derivative contacts and SFTs under the IMM(CCR) approach

199. An AI that uses the IMM(CCR) approach to calculate the EAD of a netting set that contains derivative contacts or SFTs should take into account the effect of any recognized netting in respect of the transactions or contracts concerned in the manner set out in Division 2 of Part 6A of the Rules instead of as stated above except for transactions for which the AI is permitted under section 10B(5), or has chosen under section 10B(7), of the Rules to use the methods set out in Division 1A or 2B of Part 6A of the Rules, as the case requires.

(D) Capital Treatment of Recognized Guarantees and Recognized Credit Derivative Contracts

200. Under the IRB approach, an AI may use the ***substitution framework*** to take into account the credit risk mitigating effects of recognized guarantees and recognized credit derivative contracts in calculating the risk-weighted amount of an exposure. Alternatively, an AI may use the double default framework to take into account the credit risk mitigating effect of a recognized guarantee or recognized credit derivative contract for each exposure which meets the requirements for using the double default framework.

201. If a recognized guarantee is provided to an AI or a recognized credit derivative contract is entered into by the AI, and the AI does not use the IRB approach to calculate its credit risk for exposures to the guarantor or counterparty, the AI should not take into account the credit risk mitigating effect of the guarantee or contract, in calculating, under the IRB approach, the risk-weighted amount of the exposure which is covered by the guarantee or contract.

202. Consistent with the STC approach, an AI may choose not to take into account the credit risk mitigating effects of guarantees and credit derivative contracts under the substitution framework or the double default framework, if doing so would result in a higher risk-weighted amount.

203. An AI should have in place clearly documented criteria, methods and processes for taking into account the credit risk mitigating effect of recognized guarantees and recognized credit derivative contracts, and the effects should be taken into account consistently both for a given type of recognized guarantee or recognized credit derivative contract and over time.

204. In respect of credit derivative contracts, only credit default swaps and total return swaps that provide credit protection will be recognized. However, where an AI buys the credit protection through a total return swap and records the net payments received on the swap as net income, but does not record offsetting deterioration in the value of the asset that is protected (either through reductions in fair value or by an addition to reserves or provisions), the credit protection will not be recognized. Credit-linked notes issued by the AI which fulfil the operational requirements for credit derivative contracts will be treated as cash collateralized transactions (see paragraph 153).

Corporate, Sovereign and Bank Exposures

(a) Substitution framework

205. Under the substitution framework, there are two approaches for taking into account the credit risk mitigating effect of recognized guarantees and recognized credit derivative contracts: (i) the foundation IRB approach and (ii) the advanced IRB approach. Under the substitution framework, credit risk mitigation in the form of guarantees and credit derivative contracts should not reflect the effect of ***double default***. As such, to the extent that the credit risk mitigation is recognized by an AI, the adjusted risk-weight will not be less than that of a comparable direct exposure to the credit protection provider except where a case falls within paragraph 207(ii) or 211.

Foundation IRB Approach

206. For an AI using the foundation IRB approach, the treatment of recognized guarantees and recognized credit derivative contracts closely follows that under the comprehensive approach to the treatment of the same under the STC approach.

207. The credit risk mitigating effect of recognized guarantees and credit derivative contracts is taken into account as follows:

(i) for the covered portion of the exposure, subject to subparagraph (ii), a risk-weight is derived by taking the risk-weight function applicable to the IRB class/subclass to which the credit protection provider belongs, and the PD associated with the internal obligor grade of the credit protection provider or the PD of an obligor grade falling between the internal obligor grades of the underlying obligor and the credit protection provider if the AI considers that a full substitution treatment may not be warranted. Where a portion of the exposure is covered by a recognized guarantee (original guarantee) and is the subject of a counter-guarantee given by a sovereign, the AI may, in respect of the credit protection covered portion, treat the counter-guarantee as if it were the original guarantee if the criteria set out in section 216(3A) or 217(4) of the Rules, as the case may be, are met;

(ii) where an exposure of the AI is covered by a recognized credit derivative contract cleared by a *qualifying CCP*, the AI may allocate to the covered portion of the exposure (a) a risk-weight of 2% if the requirements of section 216(3B)(a) of the Rules are met; or (b) a risk-weight of 4% if the requirements of section 216(3B)(b) or (c) of the Rules are met;

(iii) the AI may replace the LGD of the underlying exposure with the LGD applicable to the guarantee/credit derivative contract taking into account the seniority and any recognized collateral of the credit protection;

(iv) the uncovered portion of the exposure is assigned the risk-weight associated with the underlying obligor; and

(v) an AI should allocate a risk-weight of 1250% to the ***first loss portion*** in determining the risk-weighted amount where the credit protection for an AI's exposure consists of a recognized credit derivative contract providing that, on the happening of a credit event, the credit protection provider is not obliged to make a payment for any loss until the loss exceeds a specified amount (i.e. the first loss portion) and the credit protection provider is not obliged to make a payment for any loss except to the extent that the loss exceeds the first loss portion.

208. Where partial coverage exists, or where there is a currency mismatch or maturity mismatch between the underlying obligation and the credit protection, an AI should split the exposure into a covered and an uncovered portion as follows:

(i) proportional cover – Where the amount guaranteed, or against which credit protection is held, is less than the amount of the exposure, and the secured and unsecured portions are of equal seniority (i.e. the AI and the credit protection provider share losses on a pro-rata basis), capital relief will be afforded on a proportional basis. That means the protected portion of the exposure will receive the treatment applicable to recognized guarantees/credit derivative contracts, with the remainder treated as unsecured.

(ii) tranched cover – If the institution has obtained ***tranched credit protection*** for its exposure, it must decompose the exposure into a protected sub-tranche and an unprotected sub-tranche, and determine the risk-weighted amount of the exposure in accordance with Part 7 of the Rules.

(iii) currency mismatch / maturity mismatch – The treatment of currency mismatch is set out in paragraphs 221 and 222 and that of maturity mismatch is set out in paragraphs 223 to 225.

Advanced IRB Approach

209. Subject to paragraph 211, an AI using the advanced IRB approach may reflect the credit risk mitigating effect of recognized guarantees and recognized credit derivative contracts through adjusting either PD or LGD estimates. Whether adjustments are done through PD or LGD, they should be done in a consistent manner for a given type

of guarantees or credit derivative contracts. In doing so, the AI should not include the effect of double default in such adjustments. Thus, the adjusted risk-weight should not be less than that of a comparable direct exposure to the credit protection provider.

210. An AI relying on its own estimates of LGD has the option to adopt the treatment for AIs using the foundation IRB approach (see paragraphs 206 to 208), or to make an adjustment to its LGD estimate of the exposure to reflect the presence of the recognized guarantee/credit derivative contract under the advanced IRB approach.

211. Where an exposure of the AI is covered by a recognized credit derivative contract cleared by a qualifying CCP, the AI may allocate to the covered portion of the exposure (a) a risk-weight of 2% if the requirements of section 217(5)(a) of the Rules are met; or (b) a risk-weight of 4% if the requirements of section 217(5)(b) or (c) of the Rules are met.

(b) Double default framework

212. Corporate exposures (excluding specialized lending under supervisory slotting criteria approach) or public sector entity exposures (excluding exposures to sovereign foreign public sector entities) that are hedged by recognized guarantees/credit derivative contracts and satisfy the relevant requirements as set out in the Rules are eligible for the double default framework for recognition of the credit risk mitigating effect.

213. The risk-weighted amount of hedged exposures should be calculated according to the risk-weight function set out in paragraph 62 (and, where applicable, adjusted by paragraph 66(ii) in respect of SME corporates; paragraph 67 in respect of exposures to financial institutions that are subject to the asset value correlation multiplier; or paragraph 73(i) in respect of HVCRE exposures). The risk-weighted amount of the unhedged exposure should be calculated in the same way as for all other corporate exposures to the same obligor of the underlying exposure according to the risk-weight function set out in paragraph 60 (and, where applicable, adjusted by paragraph 66(i) in respect of SME corporates; paragraph 67 in respect of exposures to financial institutions that are subject to the asset value correlation multiplier; or paragraph 73(i) in respect of HVCRE exposures).

Retail Exposures

214. An AI using the retail IRB approach may use the substitution framework as set out in paragraphs 209 to 211 to take account of the credit risk mitigating effects of recognized guarantees and recognized credit derivative contracts in calculating the risk-weighted amount of a retail exposure.

Equity Exposures

215. An AI using the PD/LGD approach may use the substitution approach set out in paragraphs 206 to 208 to take account of the credit risk mitigating effects of recognized guarantees and recognized credit derivative contracts in calculating the risk-weighted amount of an equity exposure.

Purchased Receivables

216. For both purchased corporate and retail receivables, recognized guarantees and recognized credit derivative contracts under the substitution framework will be recognized generally using the substitution framework as set out in paragraphs 206 to 211, without regard to whether the guarantee or contract, as the case may be, covers default risk or dilution risk, or both.

217. If the recognized guarantee/credit derivative contract covers both the purchased receivable's default risk and dilution risk, an AI should substitute the risk-weight of the exposure to the credit protection provider for the sum of the purchased receivable's risk-weights for default risk and dilution risk which would otherwise be allocated to the exposure in respect of the purchased receivable in accordance with paragraphs 137 to 142.

218. If the recognized guarantee/credit derivative contract covers only default risk or dilution risk, but not both, an AI should substitute the risk-weight of the exposure to the credit protection provider for the risk-weight which would otherwise be allocated in respect of the default risk or dilution risk, as the case may be, covered by the guarantee/contract for the purpose of calculating the risk-weighted amount of the AI's exposure for default risk or dilution risk, as the case may be, in respect of the purchased receivable. The risk-weighted amount of the purchased receivable for the other risk component (being default risk or dilution risk not covered by the guarantee/contract, as the case may be), will then be added.

219. If the recognized guarantee/credit derivative contract covers only a portion of the default risk and/or dilution risk, an AI should divide the exposure into a covered portion and an uncovered portion for the default risk and dilution risk in accordance with paragraph 208 for proportional or tranched coverage. An AI should calculate the risk-weighted amount of the uncovered portion of the exposure in respect of default risk and dilution risk in accordance with paragraphs 137 to 142 and the risk-weighted amount of the covered portion of the exposure in respect of default risk and dilution risk in accordance with paragraph 217.

220. If the recognized guarantee/credit derivative contract covers only the dilution risk in respect of a purchased corporate receivable and the exposure meets the requirements set out in the Rules, an AI may use the double default framework to calculate the risk-weighted amount for dilution risk of the hedged exposure. In this case, paragraph 62 (and, where applicable, adjusted by paragraph 66(ii) in respect of SME corporates; paragraph 67 in respect of exposures to financial institutions that are subject to the asset value correlation multiplier; or paragraph 73(i) in respect of HVCRE exposures) apply with PD_o equal to the estimated EL for dilution risk, LGD_g equal to 100%, and M set according to paragraph 107.

(E) Currency Mismatches

221. Where a foreign currency mismatch occurs, i.e. when the credit protection is

denominated in a currency different from that of the underlying obligation, the portion covered by the credit protection should be reduced by a standard haircut of 8%.

$$G_a = G \times (1 - H_{fx})$$

where:

G_a= Credit protection covered portion adjusted for currency mismatch

G = Maximum amount payable to the AI under the credit protection

H_{fx}= Haircut applicable for currency mismatch between the credit protection and underlying obligation pursuant to the standard supervisory haircuts subject to adjustment as set out in section 92 of the Rules

222. The 8% haircut is based on a 10-business day holding period, daily remargining and daily marking-to-market. This haircut has to be adjusted in accordance with section 92 of the Rules when the minimum holding period or the mark-to-market frequency of the transactions is different from that of the standard supervisory haircut.

(F) Maturity Mismatches

223. The maturity of both the underlying exposure and the credit protection (i.e. on-balance sheet netting, recognized collateral, guarantees and credit derivative contracts) should be defined conservatively. The effective maturity of the underlying exposure should be regarded as the longest possible remaining time before the obligor is scheduled to fulfil its obligation, taking into account any applicable grace period. For the credit protection, embedded options which may reduce the term of the credit protection should be taken into account such that the shortest possible effective maturity should be considered. Where a call is at the discretion of the protection provider, the maturity will always be the first call date. If the call is at the discretion of the AI as the protection buyer but the terms of the arrangement of obligation of the hedge contain a positive incentive for the buyer to call the transaction before contractual maturity, the remaining time to the first call date will be deemed to be the effective maturity.

224. A maturity mismatch occurs where the residual maturity of the credit protection is shorter than that of the underlying exposure. The credit protection will be recognized when the hedge has an original maturity of longer than or equal to one year. As a result, the maturity of hedges for exposures with original maturities of less than one year must be matched to be recognized. In all cases, hedges with maturity mismatches will no longer be recognized when the hedges have a residual maturity of three months or less.

225. Where a recognized maturity mismatch exists, the value of the credit protection should be adjusted as follows:

$$P_a = P \times (t - 0.25) / (T - 0.25)$$

where:

P_a = Value of credit protection adjusted for maturity mismatch

P = Value of credit protection adjusted by standard supervisory haircuts (subject to adjustment as set out in section 92 of the Rules) for volatility of value of collateral and currency mismatch (if applicable)

t = min (T, residual maturity of credit protection) expressed in years

T = min (5, residual maturity of the underlying exposure) expressed in years

XIV. Application of Scaling Factor

226. In determining the total risk-weighted amount under the IRB approach, the MA will apply a scaling factor (which could be either greater than or less than one) to the risk-weighted amount calculated for all IRB classes under the IRB approach (which does not apply to the CVA risk-weighted amount reported in Form MA(BS)3(IIIf)) (see also paragraph 42(iv)). The use of this scaling factor is to broadly maintain the aggregate level of minimum capital requirements derived from the revised capital adequacy framework.

227. The current best estimate of the scaling factor is 1.06. In applying this scaling factor, an AI should multiply the risk-weighted amount calculated under the IRB approach (which does not apply to the CVA risk-weighted amount reported in Form MA(BS)3(IIIf)) by 1.06 for the computation of the capital adequacy ratio.

Section C: Treatment of Expected Losses and Eligible Provisions under IRB Approach

I. Determination of Total EL Amount

228. An AI should sum the EL amount (i.e. EL x EAD) attributed to its corporate, sovereign, bank and retail exposures (excluding hedged exposures under the double default framework[46]) that are subject to the IRB approach to obtain a ***total EL amount***.

(A) EL for Exposures other than SL under Supervisory Slotting Criteria Approach

229. An AI should calculate the EL as PD x LGD for corporate, sovereign, bank and retail exposures which are not in default and not treated as hedged exposures under the double default framework. For corporate, sovereign, bank and retail exposures that are in default, an AI should use its best estimate of EL.

(B) EL for SL under Supervisory Slotting Criteria Approach

230. For SL under supervisory slotting criteria approach, EL amount is determined by multiplying by 8% the risk-weighted amount produced from the appropriate risk-weights as specified below:

Remaining maturity	Strong	Good	Satisfactory	Weak	Default
SL (other than HVCRE exposures)					
Equal or more than 2.5 years	5%	10%	35%	100%	625%
Less than 2.5 years	0%	5%	35%	100%	625%
HVCRE exposures					
All maturities	5%	5%	35%	100%	625%

231. Where an AI assigns preferential risk-weights to its SL under supervisory slotting criteria approach (other than HVCRE exposures and specified ADC exposures) in accordance with paragraph 76(a), then, for the purpose of calculating the risk-weighted amount of these SL, the AI may assign preferential risk-weights of 0% and 5% to the SL which falls within the “strong” and “good” grades respectively in calculating the EL amount.

[46] In general, most banks do not make provisions for the hedged portion of an exposure. Furthermore, the EL is dependent on the joint probability of default of the underlying obligor and the credit protection provider and would therefore be minimal. Under these circumstances, the EL for the hedged portion of an exposure is assumed to be zero.

II. Determination of Total Eligible Provisions

232. Total eligible provisions is defined as the sum of eligible provisions that are attributed to corporate, sovereign, bank and retail exposures (excluding hedged exposures under the double default framework) that are subject to the IRB approach, where eligible provisions means the sum of the AI's specific provisions, partial write-offs, regulatory reserve for general banking risks and ***collective provisions*** attributed to non-securitization exposures that are subject to the IRB approach and any discounts referred to in paragraphs 101 and 116 on the aforesaid IRB exposures that are in default, exclusive of any CVA and CVA loss.

(A) A Portion of Exposures subject to STC Approach to Credit Risk

233. An AI using only the IRB approach, or both the IRB approach and the STC approach, to calculate its credit risk for non-securitization exposures, either on a transitional basis, or on a permanent basis if the exposures subject to the STC approach are exempted from the IRB approach, should determine the portion of regulatory reserve for general banking risks and collective provisions that is attributed to exposures under the STC approach, IRB approach, ***securitization internal ratings-based approach*** (***SEC-IRBA***), ***securitization external ratings-based approach*** (***SEC-ERBA***), ***securitization standardized approach*** (***SEC-SA***) and ***securitization fall-back approach*** (***SEC-FBA***). The treatment of such reserves and provisions attributed to exposures under these approaches is set out in the completion instructions of Form MA(BS)3(II) (see paragraphs 108 and 109), with elaborations on apportionment method in paragraphs 234 and 235.

234. An AI should attribute its total regulatory reserve for general banking risks and collective provisions on a pro-rata basis according to the proportion of the risk-weighted amount calculated by using the STC approach, IRB approach, SEC-IRBA, SEC-ERBA, SEC-SA or SEC-FBA, as the case requires (which does not include the risk-weighted amount for CVA and exposures to CCPs calculated under Part 6A of the Rules). However, with the prior consent of the MA, an AI may use its own method to apportion its total regulatory reserve for general banking risks and collective provisions among the various credit risk calculation approaches. For example, when one approach to determining the risk-weighted amount (e.g. STC approach or IRB approach) is used exclusively within an entity of the AI's consolidation group, the regulatory reserve for general banking risks and collective provisions booked within the entity using the STC approach may be attributed to exposures under the STC approach. Similarly, the regulatory reserve for general banking risks and collective provisions booked within an entity using the IRB approach may be attributed to the total eligible provisions as defined in paragraph 232.

235. The MA may, on a case-by-case basis, consider whether there are particular circumstances that justify an AI using its internal allocation methodology for allocating the reserves for general banking risks and collective provisions for recognition in capital under the STC approach, IRB approach, SEC-IRBA, SEC-ERBA, SEC-SA and SEC-FBA. An AI should obtain the MA's prior consent before such a method can be used.

III. Treatment of Total EL Amount and Total Eligible Provisions

236. An AI using the IRB approach should compare the amount of total eligible provisions (see paragraph 232) with the total EL amount (see paragraphs 228 to 231).

237. Where the total EL amount exceeds total eligible provisions, the AI should deduct the difference from its CET1 capital, in accordance with section 43(1)(i) of the Rules.

238. Where the total EL amount is less than total eligible provisions, the AI may include the difference in its Tier 2 capital, up to a maximum of 0.6% of the risk-weighted amount (excluding securitization exposures) calculated under the IRB approach (which does not include the risk-weighted amount for CVA and exposures to CCPs calculated under Part 6A of the Rules).

Section D: Specific Instructions

FORM: IRB_TOTCRWA

239. This form gives a summary of an AI's risk-weighted amount by IRB class/subclass calculated under the IRB approach and the risk-weighted amount for CVA calculated under Division 3 of Part 6A of the Rules (but excluding securitization exposures and exposures to CCPs calculated under Part 7 and Division 4 of Part 6A of the Rules respectively) and shows the effect of the scaling factor.

Item	Nature of item
Items 1 to 6	Number of Corresponding Forms Reported under Division B (Column 1)

For each IRB subclass, indicate the number of forms reported in Division B from which the figures reported under column (2) or (3) can be referred. If more than one form has been filed in Division B for an IRB subclass (see paragraphs 11 and 12), an AI should indicate the total number of forms reported for that particular IRB subclass. For example, under item 4, if an AI reports one form for RM to individuals, two forms for QRRE and two forms for other retail exposures to individuals, the AI should then report in column (1):

- for item 4(a)(i): (1) Form IRB_RETAIL
- for item 4(b): (2) Form IRB_RETAIL
- for item 4(d): (2) Form IRB_RETAIL

Risk-weighted amount (Columns (2)-(4))

Report the risk-weighted amount of the IRB classes/subclasses under the IRB approach.

Note: The new items 5(c), 5(c)(i), 5(c)(ii), 5(c)(iii), 5(c)(iv) and 5(c)(v) set out in this form are reserved for capturing the risk-weighted amounts of collective investment scheme exposures ("CIS exposures") to be determined under "Capital requirements for banks' equity investments in funds" ("EIF standard") published by the BCBS in the future.

Item 7 Total risk-weighted amount for credit risk (IRB approach) before applying the scaling factor

This is the sum of items 1 to 6.

Item 8 Total risk-weighted amount for credit risk (IRB approach) after applying the scaling factor

In calculating the total risk-weighted amount under the IRB approach, an AI should apply a scaling factor specified by the MA to the risk-weighted amount calculated under the IRB approach (i.e. item 7). The current best estimate of the scaling factor is 1.06.

Item 9 Risk-weighted amount for CVA

This is the sum of the risk-weighted amounts for CVA reported under

Divisions A and B of Form MA(BS)3(IIIf).

Item 10	Total risk-weighted amount for credit risk (IRB Approach plus CVA)

This amount equals to the sum of items 8 and 9. This is also the figure reported in item 2.3 of Division A of Form MA(BS)3(I).

A partial breakdown of the aggregate risk-weighted amount (before applying the scaling factor) is provided:

- Item 10(a): the risk-weighted amount of default risk exposures in respect of derivative contracts and SFTs that are not subject to the IMM(CCR) approach;
- Item 10(b): the risk-weighted amount of default risk exposures in respect of derivative contracts and SFTs that are subject to the IMM(CCR) approach; and
- Item 10(c): the risk-weighted amount of exposures to financial institutions that are subject to the asset value correlation multiplier.

FORM: IRB_CSB

240. This form is used for reporting the risk-weighted amount and credit risk components of corporate, bank and sovereign exposures (except SL under supervisory slotting criteria approach which should be reported in Form IRB_SLSLOT[47]). In each reporting form, an AI should state whether the foundation IRB approach or advanced IRB approach is used, the IRB class and subclass for which the form is completed, and the portfolio type when more than one form is reported for an IRB subclass.

Item — Nature of item

Columns (1) & (2) — Internal rating system

An AI using the IRB approach is required to have a minimum of seven grades for non-defaulted obligors and one for defaulted obligors in its internal rating systems. The AI can insert additional grades into column (1) if its internal obligor grades are more than eight.

Under column (2), enter "N" for a non-defaulted obligor grade and "D" for a defaulted obligor grade.

The obligor grades should be presented in an ascending order of their associated average PD. For consistency purposes, an AI should report every obligor grade within its internal rating systems in each form even though there is no exposure falling within a particular obligor grade.

Columns (3), (4) & (5) — PD range

An AI should report a distribution of PD bands as is currently used for internal purposes. For each obligor grade, report the average PD (in

[47] To avoid doubt, this means that an AI should capture its HVCRE exposures under the foundation IRB approach or advanced IRB approach in Form IRB_CSB, and those under the supervisory slotting criteria approach in Form IRB_SLSLOT.

Item	Nature of item
	percentage) under column (5). This estimate will be used for calculation of the risk-weighted amount for each exposure.

The average PD for corporate, sovereign and bank exposures that are not in default is the PD associated with the internal obligor grade to which that exposure is assigned, with a PD floor for corporate and bank exposures of 0.03%. For defaulted exposures, the average PD for corporate, sovereign and bank exposures is 100%.

Report the lower bound and upper bound of the PD band for each obligor grade under columns (3) and (4) respectively. The average PD must lie between the lower and upper boundaries. Where an AI uses a single PD estimate for each obligor grade (i.e. no PD range), it should enter the same PD estimate as the upper and lower bounds of the range (i.e. the same PD estimates for all columns (3), (4) and (5)).

In cases where an AI calculates its risk-weighted amount for both default risk and dilution risk of its purchased corporate receivables, only the PD estimate for default risk should be reported.

Columns (6) to (11)

EAD calculation

For each obligor grade, give a breakdown of the exposures before recognized guarantees/credit derivative contracts by:

- for columns (6)(i) and (6)(ii): on-balance sheet exposures before and after netting (if not covered by a valid bilateral netting agreement, the gross amount of an exposure should be reported in both columns)
- for column (7): off-balance sheet exposures (other than derivative contracts and SFTs)
- for column (8): derivative contracts and SFTs (after adjusting for the credit risk mitigating effect of a valid bilateral netting agreement or valid cross-product netting agreement, if any)

An AI is required to provide the breakdown of the EAD derivation of off-balance sheet exposures in Division D for exposures other than derivative contracts and SFTs, and Division E for derivative contracts and SFTs. Specific reporting requirements for off-balance sheet exposures are given in the specific instructions for Form IRB_OBSND, Form IRB_OBSD_SACCR, Form IRB_OBSD_SFT_N_IMM and Form IRB_OBSD_IMM.

Exposures with guarantees/credit derivative contracts recognized under the substitution framework should be reported as follows:

Foundation IRB approach

(i) Identify the IRB subclass of an exposure and report the amount of the exposure before recognized guarantees/credit derivative contracts under columns (6) to (8) in the grade applicable to the PD estimate of the underlying obligor.

Item Nature of item

(ii) Divide the exposure amount into two portions: (a) the portion covered by credit protection and (b) the remaining uncovered portion.

(iii) Report the uncovered portion as "Exposures after recognized guarantees/credit derivative contracts" under columns (9) to (11) of the same form, in the grade applicable to the PD estimate of the underlying obligor.

(iv) Report the secured portion as "Exposures after recognized guarantees/credit derivative contracts" under columns (9) to (11) of the form for the IRB subclass applicable for the credit protection provider and in the grade applicable to the PD estimate of the credit protection provider (i.e. PD substitution).

Advanced IRB approach

(i) Identify the IRB subclass of an exposure and report the amount of the exposure before recognized guarantees/credit derivative contracts under columns (6) to (8) in the grade applicable to the PD estimate of the underlying obligor.

(ii) Where the risk mitigating effects are addressed through

- PD substitution: report in the way similar to the foundation IRB approach;
- adjusting the PD estimate of the obligor: report the same exposure amount under columns (9) to (11) of the same form in a grade applicable to the adjusted PD estimate of the underlying obligor; or
- adjusting the LGD estimate: report the same exposure amount under columns (9) to (11) of the same form and in the grade applicable to the PD estimate of the underlying obligor.

Exposures with guarantees/credit derivative contracts recognized under the double default framework should be reported as follows:

(i) Identify the IRB subclass of an exposure and report the amount of the exposure before recognized guarantees/credit derivative contracts under columns (6) to (8) in the grade applicable to the PD estimate of the underlying obligor.

(ii) Divide the exposure amount into two portions: (a) the hedged portion covered by credit protection and (b) the remaining unhedged portion. In respect of the hedged portion, the risk-weighted amount should be calculated according to the risk-weight function set out in paragraph 62 (or, where applicable, adjusted by paragraph 66(ii) in respect of SME corporates; paragraph 67 in respect of exposures to financial institutions that are subject to the asset value correlation multiplier; or paragraph 73(i) in respect of

Item | Nature of item

HVCRE exposures). The risk-weighted amount of the unhedged exposure should be calculated in the same way as for all other corporate exposures to the same obligor of the underlying exposure according to the risk-weight function set out in paragraph 60 (or, where applicable, adjusted by paragraph 66(i) in respect of SME corporates; paragraph 67 in respect of exposures to financial institutions that are subject to the asset value correlation multiplier; or paragraph 73(i) in respect of HVCRE exposures).

(iii) Report both hedged and unhedged portions as "Exposures after recognized guarantees/credit derivative contracts" under columns (9) to (11) of the same form in the grade applicable to the PD estimate of the underlying obligor.

Defaulted exposures cannot be subject to the double default framework. In case the underlying obligor of a hedged exposure defaults, such exposure should be treated as a direct exposure to the credit protection provider and then risk-weighted accordingly. Conversely, if the credit protection provider of a hedged exposure defaults, such exposure should remain with the underlying obligor and should be risk-weighted as an unhedged exposure to the underlying obligor. In case both the underlying obligor and the credit protection provider of a hedged exposure default, such exposure should be treated as a defaulted exposure to either the underlying obligor or the credit protection provider, depending on which party defaulted last.

For exposures without recognized guarantees/credit derivative contracts or without taking into account the credit risk mitigating effect of recognized guarantees/credit derivative contracts, the same exposure amount should be entered in both columns (6)(ii) to (8) and (9) to (11).

Column (12) EAD

This is the sum of columns (9) to (11), which is the EAD figure for calculating the risk-weighted amount of an exposure.

Column (13) Exposure weighted average LGD

LGD is reported in percentage.

$$\text{Exposure weighted average LGD} = \sum_i LGD_i \times EAD_i \;/\; \sum_i EAD_i$$

where:

LGD_i = the LGD associated with the i^{th} exposure in a grade.

EAD_i = the EAD associated with the i^{th} exposure allocated to a grade.

The percentage reported in column (13) should agree with column (12) of Form IRB_FIRBLGD or column (19) of Form IRB_AIRBLGD, where applicable.

Item	Nature of item
Column (14)	Exposure weighted average maturity value M is reported in years. Exposure weighted average maturity value $= \sum_i M_i \times EAD_i \; / \; \sum_i EAD_i$ where: M_I = the M associated with the i^{th} exposure in a grade. EAD_i = the EAD associated with the i^{th} exposure allocated to a grade.
Columns (15) to (18)	Risk-weighted amount Calculate the risk-weighted amount of each exposure and report the sum of risk-weighted amount (including the risk-weighted amount under the double default framework and for dilution risk and residual value risk, where applicable) for each obligor grade under column (15). Report under column (16) the risk-weighted amount of hedged exposures that are calculated according to the risk-weight function set out in paragraph 62 (or, where applicable, adjusted by paragraph 66(ii) in respect of SME corporates; paragraph 67 in respect of exposures to financial institutions that are subject to the asset value correlation multiplier; or paragraph 73(i) in respect of HVCRE exposures) under the double default framework. Report under column (17) the risk-weighted amount for dilution risk for purchased receivables. Report under column (18) the risk-weighted amount for residual value risk for leasing transactions.
Columns (19) & (20)	Memorandum items Report under column (19) the sum of the ***expected loss amount*** of exposures for each obligor grade. Report under column (20) the total number of obligors and credit protection providers for the exposures reported in column (12) for each obligor grade.
Columns (6) to (12), & (15) to (20)	Exposures subject to asset value correlation multiplier Report under columns (6) to (12) and (15) to (20) the AI's exposures to financial institutions that are subject to the asset value correlation multiplier.

FORM: IRB_SLSLOT

241. This form is used for reporting SL under supervisory slotting criteria approach. In each reporting form, an AI should specify the SL subclass for which the form is completed.

Item	Nature of item
Columns (1) & (2)	Internal rating system

Internal rating system

An AI using the supervisory slotting criteria approach for SL is required to map its internal grades for the SL into five supervisory rating grades: "strong", "good", "satisfactory", "weak" and "default", each of which is assigned a supervisory risk-weight (SRW) as given in column (2), whilst the values of SRWs displayed depend on the IRB subclass selected for input:

- when an IRB subclass other than "specialized lending (high-volatility commercial real estate)" is selected for input, column (2) will show the SRWs applicable to specialized lending (other than HVCRE exposures) as set out in column (A) of the table below;
- when the IRB subclass of "specialized lending (high-volatility commercial real estate)" is selected for input, column (2) will show the SRWs applicable to HVCRE exposures, as set out in column (B) of the table below.

Supervisory rating grades	SRW (%) applicable to SL (other than HVCRE exposures) (A)	SRW (%) applicable to HVCRE exposures (B)
STRONG (a)	50	70
STRONG	70	95
GOOD (a)	70	95
GOOD	90	120
SATISFACTORY	115	140
WEAK	250	250
DEFAULT	0	0

Note: Supervisory rating grades marked by "(a)" denote preferential risk-weights. The preferential risk-weights under column (A) do not apply to specified ADC exposure.

Columns (3) to (8)

EAD calculation

For each supervisory rating grade, give a breakdown of the exposures before recognized guarantees/credit derivative contracts by:
- for columns (3)(i) and (3)(ii): on-balance sheet exposures before and after netting (if not covered by a valid bilateral netting agreement, the gross amount of an exposure should be reported in both columns)
- for column (4): off-balance sheet exposures (other than derivative contracts and SFTs)
- for column (5): derivative contracts and SFTs (after adjusting for the credit risk mitigating effect of a valid bilateral netting agreement or valid cross-product netting agreement, if any)

An AI is required to provide the breakdown of the EAD derivation of off-balance sheet exposures in Division D for exposures other than derivative contracts and SFTs, and Division E for derivative contracts and SFTs. Specific reporting requirements for off-balance sheet exposures are given in the specific instructions for Form IRB_OBSND, Form IRB_OBSD_SACCR, Form IRB_OBSD_SFT_N_IMM and Form IRB_OBSD_IMM.

Exposures with recognized guarantees/credit derivative contracts should be

Item	Nature of item
	reported as below:

(i) Identify the IRB subclass of a SL and report the exposure amount before guarantees/credit derivative contracts under columns (3) to (5) in the supervisory rating grade applicable to the obligor.

(ii) Divide the exposure amount into two portions: (a) the portion secured by credit protection; and (b) the remaining unsecured portion.

(iii) Report the uncovered portion as "Exposures after recognized guarantees/credit derivative contracts" under columns (6) to (8) of the same form, in the supervisory rating grade applicable to the obligor.

(iv) Report the secured portion as "Exposures after recognized guarantees/credit derivative contracts" under relevant columns of the applicable form for the IRB subclass applicable for the credit protection provider and in the grade applicable to the PD estimate of the credit protection provider (i.e. PD substitution).

No double default framework is available for SL under supervisory slotting criteria approach.

For exposures without recognized guarantees/credit derivative contracts or without taking into account the credit risk mitigating effect of recognized guarantees/credit derivative contracts, the same exposure amount should be entered in both columns (3)(ii) to (5) and (6) to (8).

Column (9) EAD

This is the sum of columns (6) to (8), which is the EAD figure for calculating the risk-weighted amount of an exposure.

Column (10) Exposure weighted average maturity value

Specific instructions for column (14) of Form IRB_CSB apply. The supervisory estimates of M under the foundation IRB approach are not applicable to SL under supervisory slotting criteria approach.

Column (11) Risk-weighted amount

This is calculated as follows: SRW (column (2)) x EAD (column (9)).

Columns (12) & (13) Memorandum items

Report the sum of the expected loss amount of exposures for each supervisory rating grade under column (12).

Report under column (13) the total number of obligors and credit protection providers for the exposures reported in column (9) for each supervisory rating grade.

FORM: IRB_RETAIL

242. This form is used for reporting the different IRB subclasses of retail exposures. In each reporting form, an AI should state the retail IRB subclass for which the form is completed, and the portfolio type when more than one form is reported for an IRB subclass.

Item	Nature of item
Columns (1) & (2)	Internal rating system There is no minimum number of pools for retail exposures. Under column (2), enter "N" for a non-defaulted pool and "D" for a defaulted pool. The pools should be presented in an ascending order of their associated average PD. For consistency purposes, an AI should report every obligor grade within its internal rating systems in each form even though there is no exposure falling within a particular obligor grade.
Columns (3), (4) & (5)	PD range An AI should report a distribution of PD bands as is currently used for internal purposes. For each pool (i.e. PD band), report the average PD (in percentage) under column (5). This estimate will be used for calculation of risk-weighted amount of each pool. The average PD for retail exposures that are not in default should not be less than 0.03%. For defaulted exposures, the average PD is 100%. Report the lower bound and upper bound of the PD band for each pool under columns (3) and (4) respectively. The average PD must lie between the lower and upper boundaries. Where an AI uses a PD estimate for each pool (i.e. no PD range), it should enter the same PD estimate as the upper and lower bounds of the range (i.e. the same PD estimates for all columns (3), (4) and (5)). In cases where an AI calculates its risk-weighted amount for both default risk and dilution risk of its purchased retail receivables, only the PD estimate for default risk should be reported.
Columns (6) to (11)	EAD Calculation For each pool, give a breakdown of the exposures before recognized guarantees/credit derivative contracts by: - for columns (6)(i) and (6)(ii): on-balance sheet exposures before and after netting (if not covered by a valid bilateral netting agreement, the gross amount of an exposure should be reported in both columns) - for column (7): off-balance sheet exposures (other than derivative contracts and SFTs) - for column (8): derivative contracts and SFTs (after adjusting for the risk mitigating effect of a valid bilateral netting agreement or valid cross-product netting agreement, if any)

Item	Nature of item
	An AI is required to provide the breakdown of the EAD derivation of off-balance sheet exposures in Division D for exposures other than derivative contracts and SFTs, and Division E for derivative contracts and SFTs. Specific reporting requirements for off-balance sheet exposures are given in the specific instructions for Form IRB_OBSND, Form IRB_OBSD_SACCR, Form IRB_OBSD_SFT_N_IMM and Form IRB_OBSD_IMM. Exposures with guarantees/credit derivative contracts recognized under the substitution framework should be reported as below: (i) Identify the IRB subclass of an exposure and report the amount of the exposure before recognized guarantees/credit derivative contracts under columns (6) to (8) in the pool applicable to the underlying obligor. (ii) Where the credit risk mitigating effects are addressed through adjusting the PD estimate or the LGD estimate, report the same exposure amount under columns (9) to (11) of the same form in the pool applicable to the adjusted PD/LGD estimates of the underlying obligor. For exposures without recognized guarantees/credit derivative contracts or without taking into account the credit risk mitigating effect of guarantees/credit derivative contracts, the same exposure amount should be entered in both columns 6(ii) to (8) and (9) to (11).
Column (12)	EAD This is the sum of columns (9) to (11), which is the EAD figure for calculating the risk-weighted amount of an exposure.
Column (13)	LGD LGD for a pool is measured in percentage.
Column (14) to (16)	Risk-weighted amount Calculate the risk-weighted amount (including dilution risk and residual value risk, where applicable) for each pool under column (14). Report under column (15) the risk-weighted amount for dilution risk for purchased receivables. Report under column (16) the risk-weighted amount for residual value risk for leases.
Columns (17) & (18)	Memorandum items Report under column (17) the sum of the expected loss amount of exposures for each pool.

Item	Nature of item
	Report under column (18) the total number of obligors and credit protection providers for the exposures reported in column (12) for each pool.

FORM: IRB_EQUSRW

243. This form is used for reporting the risk-weighted amount of equity exposures that are subject to the simple risk-weight method other than those equity exposures reported in Form IRB_EQUO.

Item	Nature of item
Columns (1) & (2)	Portfolio An AI having equity exposures subject to the simple risk-weight method is required to divide such exposures into two portfolios: (i) publicly traded equity exposures and (ii) all other equity exposures. These portfolios are assigned with a supervisory risk-weight of 300% and 400% respectively.
Columns (3) & (4)	EAD Calculation For each portfolio, report the exposure amount before netting (column (3)) and the exposure amount after netting (column (4)). Where an exposure is not covered by any valid bilateral netting agreement or valid cross-product netting agreement, the same amount should be entered in both columns.
Column (5)	Risk-weighted amount This is calculated as follows: SRW (column (2)) x EAD (column (4)).
Column (6)	Memorandum item Report the number of equity exposures reported under publicly traded equity exposures and all other equity exposures.

FORM: IRB_EQUINT

244. This form is used for reporting the risk-weighted amount of equity exposures that are subject to the internal models method other than those equity exposures reported in Form IRB_EQUO.

Item	Nature of item
Column (1)	Portfolio An AI having equity exposures subject to the internal models method is required to divide such exposures into two portfolios: (i) publicly traded equity exposures and (ii) all other equity exposures.
Column (2) & (3)	EAD calculation Specific instructions for columns (3) and (4) of Form IRB_EQUSRW apply.

Item	Nature of item
Columns (4) to (6)	Risk-weighted amount calculation: minimum risk-weights Under column (4), report the EAD of the equity exposures for which the minimum risk-weights are applied in calculating the risk-weighted amount, which are 200% for publicly traded equity exposures and 300% for all other equity exposures. Under column (6), the amount of risk-weighted amount of the equity exposures where the minimum risk-weights are applied is calculated as follows: EAD (column (4)) x minimum risk-weight (column (5)).
Columns (7) to (9)	Risk-weighted amount calculation: internal models Under column (7), report the EAD of the equity exposures whose risk-weighted amount is calculated using the internal models and where the minimum risk-weights are not applicable. Under column (8), report the potential loss on the equity exposures from an assumed instantaneous shock equivalent to the one-tailed 99% confidence interval of the difference between quarterly returns and an appropriate risk-free rate computed over a long-term sample period. Under column (9), the risk-weighted amount of the equity exposures is calculated as follows: potential loss (column (8)) x 12.5).
Column (10)	Risk-weighted amount This is the sum of the risk-weighted amount calculated under the minimum risk-weights (column (6)) and under the internal models (column (9)).
Column (11)	Memorandum item Report the number of equity exposures reported under publicly traded equity exposures and all other equity exposures.

FORM: IRB_EQUPDLGD

245. This form is used for reporting the risk-weighted amount and credit risk components of equity exposures subject to the PD/LGD approach other than those equity exposures reported in Form IRB_EQUO. In each reporting form, an AI should state the IRB subclass for which the form is completed, and also the portfolio type when more than one form is reported for an IRB subclass.

Item	Nature of item
Columns (1) to (5)	Internal rating system: obligor grade and PD range Specific instructions for columns (1) to (5) of Form IRB_CSB apply.
Columns (6) & (7)	EAD calculation For each obligor grade, give a breakdown of exposures (there being no

Item	Nature of item
	distinction required between on-balance sheet exposures and off-balance sheet exposures in relation to equity exposures) before recognized guarantees/credit derivative contracts by exposures before and after netting for columns (6)(i) and (ii) (if not covered by a valid bilateral netting agreement or valid cross-product netting agreement, the gross amount of an exposure should be reported in both columns). Exposures with recognized guarantees/credit derivative contracts should be reported as follows: (i) Identify the IRB subclass of an exposure and report the amount of the exposure before recognized guarantees/credit derivative contracts under column (6) in the grade applicable to the PD estimate of the underlying obligor. (ii) Divide the exposure amount into two portions: (a) the portion covered by credit protection and (b) the remaining uncovered portion. (iii) Report the uncovered portion as "Exposures after recognized guarantees/credit derivative contracts" under column (7) of the same form, in the grade applicable to the PD estimate of the underlying obligor. (iv) Report the secured portion as "Exposures after recognized guarantees/credit derivative contracts" under, say, columns (9) to (11) of the IRB_CSB or IRB_RETAIL, as the case may be, for the IRB subclass applicable for the credit protection provider and in the grade applicable to the PD estimate of the credit protection provider (i.e. PD substitution). For exposures without recognized guarantees/credit derivative contracts or without taking into account the credit risk mitigating effect of recognized guarantees/credit derivative contracts, the same exposure amount should be entered in both columns (6)(ii) and (7).
Columns (8) to (11)	Risk-weighted amount Calculate the risk-weighted amount of each exposure and report the sum of risk-weighted amount for each grade under column (8). An AI should report the supplementary information on the risk-weighted amount reported under column (8): - for column (9): report the risk-weighted amount of the equity exposures where the factor of 1.5 is applied to the risk-weight derived from the corporate risk-weight function. - for column (10): report the risk-weighted amount of the equity exposures where the minimum risk-weight is applied (i.e. 100% for publicly traded equity exposures and privately owned equity exposures held for long-term investment, 200% for other publicly traded equity exposures and 300% for other equity exposures).

Item	Nature of item
	- for column (11): report the risk-weighted amount of the equity exposures where the risk-weight of 1250% is applied.
Column (12) & (13)	Memorandum item Report the sum of the expected loss amount of exposures for each grade under column (12). Report the number of equity exposures reported for each grade under column (13).

FORM: IRB_EQUCIS

246. This form is reserved for reporting the breakdown of principal amounts and risk-weighted amounts of CIS exposures upon the local implementation of EIF standard in the future.

FORM: IRB_EQUO

247. This form is used for reporting the risk-weighted amount of specified equity exposures subject to prescribed supervisory risk-weights and are not reported in Form IRB_EQUSRW, Form IRB_EQUINT, Form IRB_EQUPDLGD or Form IRB_EQUCIS. These include:

(i) equity exposures to financial sector entities as specified under paragraph 120;
(ii) equity exposures to commercial entities as specified under paragraph 119; and
(iii) the EL amount of equity exposures subject to the PD/LGD approach as specified under paragraph 131.

Note: With reference to paragraph 246, please disregard the description "IRB_EQUCIS" as shown in this form.

Item	Nature of item
Columns (1) & (2)	Portfolio An AI should report equity exposures that fall within paragraph 247.
Columns (3) & (4)	EAD Calculation For each portfolio, report the exposure amount before netting (column (3)) and the exposure amount after netting (column (4)). Where an exposure is not covered by any valid bilateral netting agreement or valid cross-product netting agreement, the same amount should be entered in both columns.
Column (5)	Risk-weighted amount This is calculated as follows: SRW (column (2)) x EAD (column (4)).
Column (6)	Memorandum item Report the number of equity exposures reported under each of the portfolios

Item	Nature of item
	of equity exposures reported in this Form.

FORM: IRB_OTHER

248. This form is used for reporting the risk-weighted amount of cash items and other items that are not reported elsewhere in the return.

Item	Nature of item
Column (1)	Cash items An AI is required to report any cash item listed in the table under paragraph 135. Other items An AI is required to report any other item listed in the table under paragraph 136. The AI should provide a brief description of other items that are not specifically identified elsewhere in this return.
Columns (3) & (4)	EAD calculation An AI is required to report both the exposure amount before and after netting in columns (3) and (4) respectively. Where an item is not covered by a valid bilateral netting agreement or valid cross-product netting agreement, the same exposure amount should be entered in both columns.
Column (5)	Risk-weighted amount This is calculated as follows: EAD (column (4)) x SRW (column (2)).

FORM: IRB_FIRBLGD

249. This form is used for reporting the LGD information for corporate, sovereign and bank exposures under the foundation IRB approach. For each form (IRB_CSB) reported under Division B for corporate, sovereign and bank exposures under the foundation IRB approach (except SL under supervisory slotting criteria approach), an AI should file a corresponding form under IRB_FIRBLGD.

250. In each reporting form of IRB_FIRBLGD, an AI should state the IRB class and subclass for which the form is completed, and also the portfolio type where more than one form is reported for an IRB subclass.

Item	Nature of item
Columns (1) & (2)	Obligor grade Report the average PD for exposures assigned to each grade. The number of grades and the average PD figures reported should be the same as those reported in column (5) of Form IRB_CSB for that particular IRB

Item	Nature of item
	subclass/portfolio type.
Column (3)	EAD

Report the sum of EAD for exposures of each grade. This figure should be the same as column (12) of Form IRB_CSB for that particular IRB subclass/portfolio type.

Columns (4) to (11)	LGD

Allocate or apportion the EAD of each exposure according to the following facility/collateral types:

Column (4):	Exposures with ***specific wrong-way risk*** (LGD: 100%)
Column (5):	Subordinated exposures (LGD: 75%)
Column (6):	Unsecured senior exposures (LGD: 45%)
Column (7):	Other recognized IRB collateral (LGD: 40%)
Column (8):	Recognized commercial real estate (LGD: 35%)
Column (9):	Recognized residential real estate (LGD: 35%)
Column (10):	Recognized financial receivables (LGD: 35%)
Column (11):	Recognized financial collateral (LGD: 0%)

- If the exposure falls within paragraphs 87 or 88 (i.e. it is an exposure with specific wrong-way risk), report the full amount of EAD under column (4).

- If the exposure is a **subordinated exposure** that is not captured under column (4), report the full amount of EAD under column (5).

- If the exposure is an **unsecured senior exposure** that is not captured under column (4), report the full amount of EAD under column (6).

- If a senior exposure is collateralized by **recognized financial collateral** (including gold), then the AI should enter the collateralized portion after the haircut adjustments (i.e. the greater of zero or E-E*) in column (11). The uncollateralized portion (E*) should be reported in column (4) or (6).

- For senior exposures collateralized by **recognized CRE** or **recognized RRE**, if the exposure is 140% covered by collateral, 100% of the exposure should be reported in column (8) or (9), as the case may be. For exposures which are less well covered by collateral but meet a minimum coverage of 30%, the following proportion of the exposures should be reported in column (8) or (9):

  - (percentage of exposure collateralized / 140%) x EAD

  The remainder should be reported in column (4) or (6).

- For senior exposures collateralized by **recognized financial**

Item Nature of item

receivables, if an AI has an exposure that is 125% covered by collateral then it should report 100% of the exposure in column (10). For an exposure which is less well covered by collateral, the following proportion of the exposure should be reported in column (10):

- (percentage of exposure collateralized / 125%) x EAD

The remainder should be reported in column (4) or (6).

- For senior exposures collateralized by **other recognized IRB collateral**, if the exposure is 140% covered by collateral, 100% of the exposure should be reported in column (7). For an exposure which is less well covered by collateral but meet a minimum coverage of 30%, the following proportion of the exposure should be reported in column (7):

- (percentage of exposure collateralized / 140%) x EAD

The remainder should be reported in column (4) or (6).

Column (12) Exposure weighted average LGD

Report the exposure weighted average LGD for each obligor grade. These figures should be the same as those reported under column (13) of Form IRB_CSB for that particular IRB subclass/portfolio type.

FORM: IRB_AIRBLGD

251. This form is used for reporting the LGD information for corporate, sovereign and bank exposures under the advanced IRB approach. For each form (IRB_CSB) reported under Division B for corporate, sovereign and bank exposures under the advanced IRB approach (except SL under supervisory slotting criteria approach), an AI should file a corresponding form under IRB_AIRBLGD.

252. In each reporting form of IRB_AIRBLGD, an AI should state the IRB class and subclass for which the form is completed, and also the portfolio type where more than one form are reported for an IRB subclass.

Item Nature of item

Columns (1) & (2) Obligor grade

Report the average PD for exposures assigned to each obligor grade. The number of obligor grades and the average PD figures reported should be the same as those reported in column (5) of Form IRB_CSB for that particular IRB subclass/portfolio type.

Column (3) EAD

Report the sum of EAD for exposures of each grade. These figures should be the same as those reported under column (12) of Form IRB_CSB for

Item	Nature of item
	that particular IRB subclass/portfolio type.
Columns (4) to (18)	LGD Allocate or apportion the EAD of each exposure according to the ***facility grades*** (i.e. columns (4) to (18)), each of which is associated with a specified LGD. An AI should specify the percentage of LGD under each facility grade, together with a brief description where possible except that the value of LGD in column (18) (or the last column under this item if dynamic rows are inserted after column (17)) is set at 100%.
Column (19)	Exposure weighted average LGD Report the exposure weighted average LGD for each grade. These figures should be the same as those reported under column (13) of Form IRB_CSB for that particular IRB subclass/portfolio type.

FORM: IRB_OBSND

253. This form is used for reporting the breakdown of off-balance sheet exposures other than derivative contracts and SFTs for corporate, sovereign, bank and retail exposures. For corporate, sovereign and bank exposures, an AI using the foundation IRB approach to derive the risk-weighted amount for these exposures should report information under (A1) and those using the advanced IRB approach should report information under (A2). (B) is for reporting of retail exposures.

Item	Nature of item
Items (1) to (11)	Off-balance sheet exposures (Other than Default Risk Exposures in respect of derivative contracts and SFTs) An AI is required to report in items 1 to 11 each of its off-balance sheet exposures other than default risk exposures in respect of derivative contracts and SFTs as listed in the table under paragraph 161. Exposures reported in item 11 may include the credit exposures to persons holding collateral posted by the AI (other than collateral posted for centrally cleared trades and held by CCPs) in a manner that is not bankruptcy remote from the persons. An AI should provide, in all cases, the principal amount and credit equivalent amount of the exposures before and after recognized guarantees/credit derivative contracts. The AI is also required to estimate CCFs for those types without prescribed CCFs. For such types of off-balance sheet exposures, the AI is required to indicate the CCF (or a representative value of a range of CCFs).
Items (C_T & D_T)	Total credit equivalent amount Report in item C_T the sum of the credit equivalent amount (before recognized guarantees/credit derivative contracts) reported in items 1 to 11.

Item	Nature of item
	Report in item D_T the sum of the credit equivalent amount (after recognized guarantees/credit derivative contracts) reported in items 1 to 11.

FORM: IRB_OBSD_SACCR

254. This form is used for reporting the breakdown of the default risk exposures of derivative contracts[48] for corporate, sovereign, bank and retail exposures using the SA-CCR approach.

Item	Nature of item
Items (1) to (5)	Default risk exposures in respect of derivative contracts An AI is required to report the derivative contracts in accordance with the asset classes (viz. ***exchange rate contract***, ***interest rate contract***, equity-related derivative contract, ***credit-related derivative contract***, and ***commodity-related contract***) and the nature of the transactions into items (1) to (5) of Tables A1 to A3 (refer to the following instructions for details).
Items (A(i)) and (A(ii))	Total default risk exposure Report in item (A(i)) the total default risk exposures (before recognized guarantees / credit derivative contracts) reported in items (1) to (5). Report in item (A(ii)) the total default risk exposures (after recognized guarantees / credit derivative contracts) reported in items (1) to (5).

Table	Nature of item
A1	Unmargined contracts not subject to recognized netting An AI is required to report in Table A1 derivative contracts (a) that fall within the definition of ***unmargined contract*** in section 226BA of the Rules; and (b) that are not subject to recognized netting. Contracts that fall within section 226BH(2) or (4) of the Rules and contracts that have been removed from the netting sets concerned under section 226BH(3)(b) or (5) of the Rules should also be reported in this Table. Report the stated notional amount of the derivative contracts in column (a) of items (1) to (5). Report the replacement cost and the potential future exposure of the derivative contract calculated in accordance with Division 1A of Part 6A of the Rules by using the formula applicable to the contracts in columns (b) and (c) respectively. In the case of a sold option whose default risk exposure is set to zero under 226BH(2) or (3) of the Rules, the replacement

[48] The exposures covered include LSTs arising from derivative contracts – see their respective definitions under section 2(1) of the Rules.

Item	Nature of item
	cost and the potential future exposure of the option may be reported as zero. Report the default risk exposure of the derivative contract in column (d(i)), and report the default risk exposure after taking into account recognized guarantees/credit derivative contracts in column (d(ii)).
A2	Margined contracts not subject to recognized netting Report in Table A2 derivative contracts (a) that fall within the definition of ***margined contract*** in section 226BA of the Rules and (b) that are not subject to recognized netting. The reporting arrangements described in Table A1 above also apply to Table A2. In addition, if the default risk exposure calculated for a margined contract on an unmargined basis is regarded as the default risk exposure of the contract, the default risk exposure calculated on an unmargined basis should be reported in this Table (see section 226BH(1) of the Rules). If more than one derivative contract is covered by a single variation margin agreement, (a) report the stated notional amount of each of the derivative contracts in items (1a), (2a), (3a), (4a) or (5a), as the case requires; and (b) there is no need to report the replacement cost, potential future exposure and default risk exposure calculated for these contracts by type of contract (i.e. items (1) to (5)), the default risk exposures calculated should be reported in columns (A(i)) and (A(ii)) (after taking into account recognized guarantees / credit derivative contracts, if any) of this Table.
A3	Contracts (margined or unmargined) subject to recognized netting Report in Table A3 derivative contracts (whether margined or not) that are subject to recognized netting. The default risk exposure of a netting set should be reported in columns (A(i)) and (A(ii)) (after taking into account recognized guarantees / credit derivative contracts, if any) of this Table.
B1	CCP-related transactions (including ***offsetting transactions***) Report the amounts under Tables A1 to A3 that are related to offsetting transactions or CCP-related transactions entered into by the AI with ***clearing members*** or ***clearing clients***.

FORM: IRB_OBSD_SFT_N_IMM

255. This form is used for reporting the breakdown of the default risk exposures of SFTs[49] (including centrally cleared trades that are treated as bilateral trades) for corporate, sovereign, bank and retail exposures which are not subject to the IMM(CCR) approach.

Item	Nature of item
Item (1)	SFTs not subject to recognized netting An AI is required to report the amount of assets sold, transferred, loaned or paid and the default risk exposures in respect of SFTs (before and after recognized guarantees / credit derivative contracts) that are not subject to recognized netting in accordance with section 226MJ of the Rules.
Item (2)	SFTs subject to recognized netting Report the amount of assets sold, transferred, loaned or paid and the default risk exposures in respect of SFTs (before and after recognized guarantees / credit derivative contracts) that are subject to recognized netting in accordance with section 226MK or 226ML of the Rules.
Item (B(i)) and (B(ii))	Total default risk exposures Report in item (B(i)) the total default risk exposures (before recognized guarantees / credit derivative contracts) reported in items (1) and (2). Report in item (B(ii)) the total default risk exposures (after recognized guarantees / credit derivative contracts) reported in items (1) and (2).
Item (3)	CCP-related transactions (including offsetting transactions) Report the amounts that are related to offsetting transactions or CCP-related transactions entered into by the AI with clearing members or clearing clients.

FORM: IRB_OBSD_IMM

256. This form is used for reporting the breakdown of the default risk exposures of derivative contracts and SFTs[48, 49] (including centrally cleared trades that are treated as bilateral trades) for corporate, sovereign, bank and retail exposures under the IMM(CCR) approach. An AI should refer to paragraphs 149(a) and 174 to 177 and report in this form for different IRB classes the principal amounts and default risk exposures of derivative contracts and SFTs that are associated with the *higher* of the portfolio-level risk-weighted amount of the relevant exposures referred to in paragraph 175(i) and (ii).

[49] The exposures covered include LSTs arising from SFTs – see their respective definitions under section 2(1) of the Rules.

Item	Nature of item
Items (1) to (7)	Derivative contracts and SFTs An AI is required to report in items 1 to 7 each of its derivative contracts (other than LSTs), SFTs (other than LSTs) and LSTs (regardless of the nature of the LSTs) by IRB class. AIs should report relevant exposures that are not subject to valid bilateral netting agreements or valid cross-product netting agreements, or exposures that are required to be treated as a separate netting set under section 226J(1) of the Rules, in items 1 to 3 as appropriate. Relevant exposures that are subject to valid bilateral netting agreements or valid cross-product netting agreements and which do not fall within section 226J(1) of the Rules should be reported in items 4 to 7 as appropriate. An AI should provide, in all cases, the total notional amount (which, in respect of SFTs, is the total amount of assets sold, transferred, loaned or paid under the SFTs) and default risk exposure of the transactions before and after recognized guarantees/credit derivative contracts (but after netting in both instances).
Items (B(ii) & B(iii))	Total default risk exposures Report in item B(ii) the sum of the default risk exposures (before recognized guarantees/credit derivative contracts but after netting) reported in items 1 to 7 for different IRB classes. Report in item B(iii) the sum of the default risk exposures (after recognized guarantees/credit derivative contracts and netting) reported in items 1 to 7 for different IRB classes.
Items (8a), (8b(i)) and (8b(ii))	CCP-related transactions (including offsetting transactions) Out of the amounts reported in items (1) to (7), report in item (8), by IRB class, the amounts that are related to offsetting transactions or CCP-related transactions entered into by the AI with clearing members or clearing clients.

FORM: IRB_ELEP

257. This form is used for reporting the EL amount and eligible provisions by IRB class/subclass and calculating the difference between the total EL amount and total eligible provisions (if any) for the computation of capital base.

Item	Nature of item
Items (1) to (4)	Corporate, sovereign, bank and retail exposures An AI should report by IRB class/subclass the EL amount and eligible provisions for non-defaulted exposures (columns (a) and (d)) and defaulted exposures (columns (b) and (e)).

Item	Nature of item
Item (5)	Total This is the sum of items (1) to (4).
Items (6) to (9)	EL-EP calculation Excess of total EL amount over total eligible provisions will be reported in item 6. This figure will be deducted from an AI's CET1 capital, in accordance with section 43(1)(i) of the Rules (see Form MA(BS)3(II)). Surplus of total eligible provisions over total EL amount will be reported in item 7. This figure will be compared to a ceiling reported in item 8 (i.e. 0.6% x item 8 of Form IRB_TOTCRWA) and then the lower amount is reported in item 9. This figure will be added to an AI's Tier 2 capital (see Form MA(BS)3(II)).

Hong Kong Monetary Authority
June 2021

Annex IIIc-A: Illustrations

1. Below are some illustrative examples for the calculation of the risk-weighted amounts under the foundation IRB approach. These examples are reported in the attached returns for Bank XYZ.

(A) Corporate, Sovereign and Bank Exposures

2. For simplicity reasons, Bank XYZ is assumed to have one internal rating system for all of its corporate, sovereign and bank exposures. This internal rating system comprises 8 obligor grades, each associated with a PD estimate as given in Tables A and B below. Table A gives the risk-weights for SME Corporates while Table B gives the risk-weights for Other Corporates.

Table A: Bank XYZ's Internal Rating System for Corporate, Sovereign and Bank Exposures – SME Corporates (M = 2.5 years ; obligor's reported annual revenue = HK$50 Mn)

Grade	Non-defaulted (P) / Defaulted (D)	PD	IRB Risk-Weight (RW)			
			LGD: 75%	LGD:45%	LGD:40%	LGD:35%
1	P	0.03%	18.81%	11.30%	10.03%	8.78%
2	P	0.25%	65.01%	39.01%	34.67%	30.34%
3	P	0.75%	108.57%	65.14%	57.90%	50.67%
4	P	1.50%	136.85%	82.11%	72.99%	63.87%
5	P	3.00%	162.63%	97.58%	86.74%	75.90%
6	P	6.00%	199.14%	119.48%	106.21%	92.93%
7	P	20.00%	314.03%	188.42%	167.48%	146.55%
8	D	100.00%	-	-	-	-

Table B: Bank XYZ's Internal Rating System for Corporate, Sovereign and Bank Exposures – Other Corporates (M = 2.5 years)

Grade	Non-defaulted (P) / Defaulted (D)	PD	IRB Risk-Weight (RW)			
			LGD: 75%	LGD:45%	LGD:40%	LGD:35%
1	P	0.03%	24.05%	14.44%	12.83%	11.22%
2	P	0.25%	82.45%	49.47%	43.97%	38.48%
3	P	0.75%	137.96%	82.78%	73.58%	64.38%
4	P	1.50%	175.99%	105.59%	93.86%	82.13%
5	P	3.00%	214.07%	128.44%	114.17%	99.90%
6	P	6.00%	266.02%	159.61%	141.88%	124.14%
7	P	20.00%	397.05%	238.23%	211.76%	185.29%
8	D	100.00%	-	-	-	-

(i) Example 1 (Corporate exposure with on-balance sheet netting)

Corporate A, classified as grade 5 under the Bank XYZ's internal rating system, borrowed a senior (i.e. not subordinated) loan of HK$100 Mn from Bank XYZ. Corporate A has also placed a pledged deposit of HK$10 Mn with Bank XYZ. Both the loan and the pledged deposit are subject to a valid bilateral netting agreement.

Given:

- Corporate A's group total annual revenue = HK$500 Mn or more
- Specific provision = HK$1 Mn
- No currency and maturity mismatch between the loan and the pledged deposit

Workings:

- Estimated PD (grade 5) for Corporate A = 3%
- LGD = 45%
- RW = 128.44%
- M = 2.5 years

(a) Exposures *before* recognized guarantees/credit derivative contracts:

(1) On-balance sheet exposures *before* netting = HK$100 Mn

(2) On-balance sheet exposures *after* netting

= max [0, exposures - liabilities x (1 - H_{fx})]

= HK$100 Mn - HK$10 Mn

= HK$90 Mn

(b) Exposures *after* recognized guarantees/credit derivative contracts (on-balance sheet exposures after netting) = HK$90 Mn (i.e. EAD)

(c) Risk-weighted amount of the exposure to Corporate A

= EAD x RW

= HK$90 Mn x 1.2844

= HK$115.596 Mn

(d) EL-eligible provisions calculation:

(1) EL amount

= EAD x PD x LGD

= HK$90 Mn x 0.03 x 0.45

= HK$1.215 Mn

(2) Eligible provisions = HK$1 Mn

(ii) Example 2 (SME corporate exposure partially guaranteed by a bank)

Corporate B, classified as grade 5 under the Bank XYZ's internal rating system, borrowed a subordinated loan of HK$100 Mn from Bank XYZ. HK$40 Mn of this

exposure is guaranteed by Bank C, classified as grade 2 under the Bank XYZ's internal rating system. The guaranteed commitment is a senior claim on Bank C.

Given:

- Corporate B's group total annual revenue = HK$50 Mn or below
- Specific provision = HK$1.72 Mn
- No currency and maturity mismatch between the transaction and the guarantee
- PD substitution (i.e. not subject to double default framework)

Workings:

Corporate B:

- Estimated PD (grade 5) for Corporate B = 3%
- LGD of the uncovered portion = 75%
- RW = 162.63%
- M = 2.5 years

(a) Exposures *before recognized* guarantees/credit derivative contracts (on-balance sheet exposures before/after netting) = HK$100 Mn

(b) Exposures *after* recognized guarantees/credit derivative contracts (on-balance sheet exposures after netting)
= HK$100 - HK$40 Mn
= HK$60 Mn (i.e. EAD)

(c) Risk-weighted amount for the exposure to Corporate B (i.e. portion not covered by the guarantee issued by Bank C)
= EAD x RW
= HK$60 Mn x 1.6263
= HK$97.578 Mn

(d) EL-eligible provisions calculation:
(1) EL amount
= EAD x PD x LGD
= HK$60 Mn x 0.03 x 0.75
= HK$1.35 Mn
(2) Eligible provisions
= HK$1.72 Mn x 60/100 (or a risk-weighted basis, such as based on the EL amount i.e. 1.35/(1.35 + 0.045))
= HK$1.032 Mn

Bank C:

- Estimated PD (grade 2) for Bank C = 0.25%
- LGD of the guaranteed portion = 45%

- RW = 49.47%
- M = 2.5 years

(e) Exposures *after* recognized guarantees/credit derivative contracts (on-balance sheet exposures after netting) = HK$40 Mn (i.e. EAD)

(f) Risk-weighted amount of the exposure to Bank C (i.e. the guaranteed portion)
= EAD x RW
= HK$40 Mn x 0.4947
= HK$19.788 Mn

(g) EL-eligible provisions calculation:
(1) EL amount
= EAD x PD x LGD
= HK$40 Mn x 0.0025 x 0.45
= HK$0.045 Mn
(2) Eligible provisions
= HK$1.72 Mn x 40/100 (or a risk-weighted basis, such as based on the EL amount i.e. 0.045/(1.35 + 0.045))
= HK$0.688 Mn

(iii) Example 3 (Secured corporate exposure fully guaranteed by a sovereign)

Corporate D, classified as grade 5 under the Bank XYZ's internal rating system, borrowed a senior loan of HK$100 Mn from Bank XYZ. The transaction is secured by a BBB rated six-year corporate ***bond*** of HK$40 Mn and another recognized IRB collateral of HK50 Mn. Also, the exposure is fully guaranteed by Central Bank E which is classified as grade 4 under the Bank XYZ's internal rating system.

Given:
- Corporate D's group total annual revenue = HK$500 Mn or more
- Haircut for the BBB rated six-year corporate bond (i.e. credit quality grade 3 of residual maturity >5 years) = 12%
- No currency and maturity mismatch between the transaction and the collateral/guarantee
- No specific provisions made

Workings:

Corporate D:
- Estimated PD (grade 5) for Corporate D = 3%
- M = 2.5 years

(a) Exposures before recognized guarantees/credit derivative contracts (on-balance sheet exposures before/after netting) = HK$100 Mn

(b) Exposures after recognized guarantees/credit derivatives (on-balance sheet exposures after netting)
= HK$100 Mn - HK$100 Mn
= <u>HK$0 Mn</u>

(c) Eligible provisions = HK$0 Mn

Sovereign E:

- Estimated PD (grade 4) for Sovereign E = 1.5%
- M = 2.5 years

(d) Exposures after recognized guarantees/credit derivative contracts (on-balance sheet exposures after netting) = HK$100 Mn (i.e. EAD)

(e) Allocation of EAD according to collateral type:

(1) <u>Portion fully secured by recognized financial collateral:</u>
= C x (1 - H_c - H_{fx})
= HK$40 Mn x (1 - 0.12 - 0)
= <u>HK$35.2 Mn</u> (LGD = 0%)

(2) <u>Portion fully secured by other recognized IRB collateral:</u>

- *Value of the physical collateral*[50]*:*

= C x (1 - H_c - H_{fx})
= HK$50 Mn x (1 - 0 - 0)
= HK$50 Mn

- *Ratio of the value of the other recognized IRB collateral to the reduced exposure (after recognizing the effect of recognized financial collateral):*

= [HK$50 Mn / (HK$100 Mn - HK$35.2 Mn)] x 100%
= 77% (between C* of 30% and C** of 140%)

- *Portion fully secured by other recognized IRB collateral:*

= Value of the other recognized IRB collateral / C**
= HK$50 Mn / 140%
= <u>HK$35.714 Mn</u> (LGD = 40%, RW = 93.86%)

(3) <u>Unsecured portion</u>:
= HK$100 Mn - HK$35.2 Mn - HK$35.714 Mn
= <u>HK$29.086 Mn</u> (LGD = 45%, RW = 105.59%)

(f) Exposure weighted average LGD
= ($E_{financial}$ x 0% + E_{other} x 40% + $E_{unsecured}$ x 45%) / E

[50] Haircut (H_c) for eligible IRB collateral is 0%.

= (HK$35.2 Mn x 0%) + (HK$35.714 Mn x 40%) + (HK$29.086 Mn x 45%) / HK$100 Mn

= 27.37%

(g) Risk-weighted amount of the exposure to Central Bank E

= $(EAD \times RW)_{financial} + (EAD \times RW)_{other} + (EAD \times RW)_{unsecured}$

= (HK$35.2 Mn x 0) + (HK$35.714 Mn x 0.9386) + (HK$29.086 Mn x 1.0559)

= HK$64.233 Mn

(h) EL-eligible provisions calculation:

(1) EL amount

= $(EAD \times PD \times LGD)_{financial} + (EAD \times PD \times LGD)_{other} + (EAD \times PD \times LGD)_{unsecured}$ (or = EAD x PD x Exposure weighted average LGD)

= (HK$35.2 Mn x 0.015 x 0) + (HK$35.714 Mn x 0.015 x 0.4) + (HK$29.086 Mn x 0.015 x 0.45) or (= HK$100 Mn x 0.015 x 0.2737)

= HK$0.411 Mn

(2) Eligible provisions = HK$0 Mn

(iv) Example 4 (Clean Corporate exposure in defaulted grade)

Corporate F, classified as grade 8 (i.e. default) under the Bank XYZ's internal rating system, borrowed a senior unsecured loan of HK$100 Mn from Bank XYZ.

Given:

- Specific provisions = HK$40 Mn
- Best estimate of EL = 40%

Workings:

- Estimated PD (grade 8) for Corporate F = 100%
- LGD = 45%

(a) Exposures *before/after recognized* guarantees/credit derivative contracts (on-balance sheet exposures before/after netting) = HK$100 Mn (i.e. EAD)

(b) Risk-weighted amount of the exposure to Corporate F

= max [0, LGD - EL] x 12.5 x EAD

= (45% - 40%) x 12.5 x HK$100 Mn

= HK$62.5 Mn

(c) EL-eligible provisions calculation:

(1) EL amount

= EL x EAD

= 0.4 x HK$100 Mn

= HK$40 Mn

(2) Eligible provisions = HK$40 Mn

(B) Equity Exposures

(v) Example 5 (Market-based approach: Internal models method)

Bank XYZ has an equity holding in Company G, which is traded on a ***recognized stock exchange*** and does not fall within paragraph 119 or 120 of the instructions. The fair value of the equity holding is HK$20 Mn. Any change in its fair value will be flowing directly through income and into ***regulatory capital***. The potential loss on the equity holding as derived by using internal VaR model is HK$4 Mn.

Given:

- No specific provision made

Workings:

(a) Exposures *before/after netting* = HK$20 Mn

(b) Risk-weighted amount of equity exposure to Company G:

(1) Minimum risk-weighted amount (using the simple risk weight)
= EAD x RW
= HK$20 Mn x 200%
= HK$40 Mn

(2) Risk-weighted amount under internal VaR model
= Potential loss x 12.5
= HK$4 Mn x 12.5
= HK$50 Mn

Risk-weighted amount = max [(1), (2)] = HK$50 Mn

(c) Eligible provisions = HK$0 Mn

(C) Retail Exposures

(vi) Example 6 (QRRE)

Within the exposure subclass of QRRE, Bank XYZ is using a separate internal rating system for revolving personal loans with PD estimates as given below. There are four defaulted pools with LGD estimates of 30%, 60%, 85% and 100%.

Table C: Bank XYZ's Internal Rating System for QRRE

Pool	Non-defaulted (P) / Defaulted (D)	PD	IRB Risk Weight (RW)		
			LGD: 85%	LGD:60%	LGD:30%
1	P	0.05%	2.86%	2.02%	1.01%
2	P	0.25%	10.88%	7.68%	3.84%

Pool	Non-defaulted (P) / Defaulted (D)	PD	IRB Risk Weight (RW)		
			LGD: 85%	LGD:60%	LGD:30%
3	P	0.75%	26.06%	18.40%	9.20%
4	P	3.00%	73.03%	51.55%	25.78%
5	P	6.00%	116.37%	82.14%	41.07%
6	P	15.00%	196.23%	138.51%	69.26%
7	D	100.00%	-	-	-

Bank XYZ has granted an unsecured revolving loan facility of HK$1 Mn to Mr. H, of which HK$0.8 Mn has been drawn down and is outstanding. The exposure to Mr. H is classified in the retail pool with a PD estimate of 0.75% (i.e. grade 3) and LGD estimate of 60%.

Given:

- No specific provision made
- The undrawn portion is unconditionally cancellable with a CCF of 0%
- Estimated PD (grade 3) for Mr. H = 0.75%
- LGD = 60%
- RW = 18.40%

Workings:

(a) Exposures *before/after recognized* guarantees/credit derivative contracts:

(1) On-balance sheet exposures before/after netting = HK$0.8 Mn

(2) Off-balance sheet exposures (Other than derivative contracts and SFTs)
= Principal amount x CCF
= (HK$1 Mn - HK$0.8 Mn) x 0%
= HK$0 Mn

(b) Risk-weighted amount of the exposure to Mr. H:
= EAD x RW
= HK$0.8 Mn x 0.184
= HK$0.147 Mn

(c) EL-eligible provisions calculation:

(1) EL amount
= EAD x PD x LGD
= HK$0.8 Mn x 0.0075 x 0.6
= HK$0.004 Mn

(2) Eligible provisions = HK$0 Mn

Annex IIIc-B: Structure of the IRB Return [MA(BS)3(IIIc)]

Division	Template	IRB Class/Subclass To Be Reported
A.	IRB_TOTCRWA	For all IRB classes/subclasses under IRB approach
B.	IRB_CSB	For each of the following IRB subclasses for corporate/sovereign/bank exposures under FIRB approach or AIRB approach :- • Corporate exposures: (i) Small-and-medium sized corporates • Corporate exposures: (ii) Other corporates • Corporate exposures: (iii) Specialized Lending (high-volatility commercial real estate) • Sovereign exposures: (i) Sovereigns • Sovereign exposures: (ii) Sovereign foreign public sector entities • Sovereign exposures: (iii) Multilateral development banks • Bank exposures: (i) Banks • Bank exposures: (ii) Securities firms • Bank exposures: (iii) Public sector entities (excluding sovereign foreign public sector entities)
	IRB_SLSLOT	For each of the following IRB subclasses where supervisory slotting criteria approach is applicable:- • Corporate exposures: (i) Specialized Lending under supervisory slotting criteria approach (project finance) • Corporate exposures: (ii) Specialized Lending under supervisory slotting criteria approach (object finance) • Corporate exposures: (iii) Specialized Lending under supervisory slotting criteria approach (commodities finance) • Corporate exposures: (iv) Specialized Lending under supervisory slotting criteria approach (income-producing real estate) • Corporate exposures: (v) Specialized Lending (high-volatility commercial real estate)
	IRB_RETAIL	For each of the following IRB subclasses for retail exposures under retail IRB approach:- • Retail exposures: (i) Residential mortgages to individuals • Retail exposures: (ii) Residential mortgages to property-holding shell companies • Retail exposures: (iii) Qualifying revolving retail exposures • Retail exposures: (iv) Small business retail exposures • Retail exposures: (v) Other retail exposures to individuals
	IRB_EQUSRW	Equity exposures: Market-based approach: Simple risk-weight method
	IRB_EQUINT	Equity exposures: Market-based approach: Internal models method

<table>
<tr><th>Division</th><th>Template</th><th>IRB Class/Subclass To Be Reported</th></tr>
<tr><td></td><td>IRB_EQUPDLGD</td><td>For each of the following IRB subclasses for equity exposures under PD/LGD approach:-
• Equity exposures: (i) Publicly traded equity exposures held for long-term investment
• Equity exposures: (ii) Privately owned equity exposures held for long-term investment
• Equity exposures: (iii) Other publicly traded equity exposures
• Equity exposures: (iv) Other equity exposures</td></tr>
<tr><td></td><td>IRB_EQUCIS</td><td>Equity exposures: CIS exposures
Note: This form is reserved for future use. Please refer to paragraph 246 for details.</td></tr>
<tr><td></td><td>IRB_EQUO</td><td>Equity exposures: Market-based approach or PD/LGD Approach: Exposures not reported in Forms IRB_EQUSRW, IRB_EQUINT, IRB_EQUPDLGD or IRB_EQUCIS</td></tr>
<tr><td></td><td>IRB_OTHER</td><td>For cash items and other items under specific risk-weight approach</td></tr>
<tr><td>C.</td><td>IRB_FIRBLGD</td><td>For each of the IRB subclasses for corporate/sovereign/bank exposures reported under FIRB approach in Division B</td></tr>
<tr><td></td><td>IRB_AIRBLGD</td><td>For each of the IRB subclasses for corporate/sovereign/bank exposures reported under AIRB approach in Division B</td></tr>
<tr><td>D.</td><td>IRB_OBSND</td><td>For the IRB classes of corporate/sovereign/bank/retail exposures under IRB approach</td></tr>
<tr><td>E.</td><td>IRB_OBSD_SACCR</td><td>For the IRB classes of corporate/sovereign/bank/retail exposures under IRB approach: Default risk exposures in respect of derivative contracts under SA-CCR approach</td></tr>
<tr><td></td><td>IRB_OBSD_SFT_N_IMM</td><td>For the IRB classes of corporate/sovereign/bank/retail exposures under IRB approach: Default risk exposures in respect of SFTs not under IMM(CCR) approach</td></tr>
<tr><td></td><td>IRB_OBSD_IMM</td><td>For the IRB classes of corporate/sovereign/bank/retail exposures under IRB approach: Default risk exposures under IMM(CCR) approach</td></tr>
<tr><td>F.</td><td>IRB_ELEP</td><td>For the IRB classes of corporate/sovereign/bank/retail exposures under IRB approach</td></tr>
</table>

Annex IIIc-C: Illustrative Risk-weights under IRB Approach

IRB Class / Subclass	**Corporate Exposures**		**Residential Mortgages**		**Small Business Retail Exposures and Other Retail Exposures to Individuals**		**Qualifying Revolving Retail Exposures**	
LGD:	45%	45%	45%	25%	45%	85%	45%	85%
Maturity 2.5 years								
Annual revenue (HK$ Mn)	500	50						
PD: 0.03%	14.44%	11.30%	4.15%	2.30%	4.45%	8.41%	0.98%	1.85%
0.05%	19.65%	15.39%	6.23%	3.46%	6.63%	12.52%	1.51%	2.86%
0.10%	29.65%	23.30%	10.69%	5.94%	11.16%	21.08%	2.71%	5.12%
0.25%	49.47%	39.01%	21.30%	11.83%	21.15%	39.96%	5.76%	10.88%
0.40%	62.72%	49.49%	29.94%	16.64%	28.42%	53.69%	8.41%	15.88%
0.50%	69.61%	54.91%	35.08%	19.49%	32.36%	61.13%	10.04%	18.97%
0.75%	82.78%	65.14%	46.46%	25.81%	40.10%	75.74%	13.80%	26.06%
1.00%	92.32%	72.40%	56.40%	31.33%	45.77%	86.46%	17.22%	32.53%
1.30%	100.95%	78.77%	67.00%	37.22%	50.80%	95.95%	21.02%	39.70%
1.50%	105.59%	82.11%	73.45%	40.80%	53.37%	100.81%	23.40%	44.19%
2.00%	114.86%	88.55%	87.94%	48.85%	57.99%	109.53%	28.92%	54.63%
2.50%	122.16%	93.43%	100.64%	55.91%	60.90%	115.03%	33.98%	64.18%
3.00%	128.44%	97.58%	111.99%	62.22%	62.79%	118.61%	38.66%	73.03%
4.00%	139.58%	105.04%	131.63%	73.13%	65.01%	122.80%	47.16%	89.08%
5.00%	149.86%	112.27%	148.22%	82.35%	66.42%	125.45%	54.75%	103.41%
6.00%	159.61%	119.48%	162.52%	90.29%	67.73%	127.94%	61.61%	116.37%
10.00%	193.09%	146.51%	204.41%	113.56%	75.54%	142.69%	83.89%	158.47%
15.00%	221.54%	171.91%	235.72%	130.96%	88.60%	167.36%	103.89%	196.23%
20.00%	238.23%	188.42%	253.12%	140.62%	100.28%	189.41%	117.99%	222.86%

Note:

1. The above table provides illustrative risk-weights for UL calculated for the IRB class of corporate exposures and the IRB subclasses of retail exposures under the IRB approach. Each set of risk-weights is produced using the appropriate risk-weight functions. The inputs used to calculate the illustrative risk weights include measures of PD and LGD and an assumed M of 2.5 years.

2. A firm-size adjustment applies to exposures falling within the IRB subclass of small-and-medium sized corporates (defined as exposures to a corporate where the reported total annual revenue for the consolidated group of which the corporate is a part is less than HK$500 million). Accordingly, the firm-size adjustment is made in determining the second set of risk-weights provided in the second column of corporate exposures given that the annual revenue of the corporate receiving the exposure is assumed to be HK$50 million.

Part IIIc: Risk-weighted Amount for Credit Risk (IRB Approach)
Division A: Summary of Risk-weighted Amount for Credit Risk under IRB Approach

IRB_TOTCRWA

Name of the AI: **XYZ Bank**

(in HK$'000)

Item	IRB Class	Number of Corresponding Forms Reported under Division B (1)	Risk-weighted Amount (2)	(3)	(4)
1.	**Corporate exposures**, of which				275,674
	(a) Specialized lending under supervisory slotting criteria approach				
	(i) Project finance	( ) Form IRB_SLSLOT			
	(ii) Object finance	( ) Form IRB_SLSLOT			
	(iii) Commodities finance	( ) Form IRB_SLSLOT			
	(iv) Income-producing real estate	( ) Form IRB_SLSLOT			
	(b) Specialized lending (high-volatility commercial real estate)	( ) Form IRB_SLSLOT and ( ) Form IRB_CSB			
	(c) Small-and-medium sized corporates	(1) Form IRB_CSB		97,578	
	(d) Other corporates	(1) Form IRB_CSB		178,096	
2.	**Sovereign exposures**, of which				64,233
	(a) Sovereigns	(1) Form IRB_CSB		64,233	
	(b) Sovereign foreign public sector entities	( ) Form IRB_CSB			
	(c) Multilateral development banks	( ) Form IRB_CSB			
3.	**Bank exposures**, of which				19,788
	(a) Banks	(1) Form IRB_CSB		19,788	
	(b) Securities firms	( ) Form IRB_CSB			
	(c) Public sector entities (excluding sovereign foreign public sector entities)	( ) Form IRB_CSB			
4.	**Retail exposures**, of which				147
	(a) Residential mortgages				
	(i) Individuals	( ) Form IRB_RETAIL			
	(ii) Property-holding shell companies	( ) Form IRB_RETAIL			
	(b) Qualifying revolving retail exposures	(1) Form IRB_RETAIL		147	
	(c) Small business retail exposures	( ) Form IRB_RETAIL			
	(d) Other retail exposures to individuals	( ) Form IRB_RETAIL			
5.	**Equity exposures**, of which				50,000
	(a) Market-based approach			50,000	
	(i) Simple risk-weight method	( ) Form IRB_EQUSRW			
	(ii) Internal models method	(1) Form IRB_EQUINT	50,000		
	(b) PD/LGD approach				
	(i) Publicly traded equity exposures held for long-term investment	( ) Form IRB_EQUPDLGD			
	(ii) Privately owned equity exposures held for long-term investment	( ) Form IRB_EQUPDLGD			
	(iii) Other publicly traded equity exposures	( ) Form IRB_EQUPDLGD			
	(iv) Other equity exposures	( ) Form IRB_EQUPDLGD			
	(c) Approaches for CIS exposures				
	(i) Look-through approach	( ) Form IRB_EQUCIS			
	(ii) Third-party approach	( ) Form IRB_EQUCIS			
	(iii) Mandate-based approach	( ) Form IRB_EQUCIS			
	(iv) Fall-back approach	( ) Form IRB_EQUCIS			
	(v) Combination of approaches	( ) Form IRB_EQUCIS			
	(d) Equity exposures not reported in IRB_EQUSRW, IRB_EQUINT, IRB_EQUPDLGD or IRB_EQUCIS	( ) Form IRB_EQUO			
6.	**Other exposures**	( ) Form IRB_OTHER			
7.	**Total risk-weighted amount for credit risk (IRB Approach) before applying the scaling factor** [Item 7 = Item 1 + Item 2 + Item 3 + Item 4 + Item 5 + Item 6]				409,842
8.	**Total risk-weighted amount for credit risk (IRB Approach) after applying the scaling factor** [Item 8 = Item 7 x 1.06]				434,433
9.	**Risk-weighted amount for CVA**	Part IIIf			0
10.	**Total risk-weighted amount for credit risk (IRB Approach plus CVA) [Item 10 = Item 8 + Item 9], of which**				**434,433**
	(a) Risk-weighted amount of default risk exposures in respect of derivative contracts and SFTs not subject to IMM(CCR) Approach				
	(b) Risk-weighted amount of default risk exposures in respect of derivative contracts and SFTs subject to IMM(CCR) Approach				
	(c) Risk-weighted amount of exposures subject to asset value correlation multiplier of 1.25				

Division B: **Risk-weighted Amount by IRB Class / Subclass** **IRB_CSB**

Name of the AI: **XYZ Bank**

IRB Class : **Corporate Exposures ~~/ Sovereign Exposures / Bank Exposures~~** *(delete where inapplicable)*

IRB Approach : **Foundation IRB Approach ~~/ Advanced IRB Approach~~** *(delete where inapplicable)*

IRB Subclass : **~~Small-and-medium sized Corporates /~~ Other Corporates ~~/ Specialized lending (high-volatility commercial real estate) /~~**
~~Sovereigns / Sovereign Foreign Public Sector Entities / Multilateral Development Banks /~~
~~Banks / Securities Firms / Public Sector Entities (Excluding Sovereign Foreign Public Sector Entities) (delete where inapplicable)~~

Portfolio Type : *(please specify where the reporting AI has more than one internal rating system for an IRB class / subclass)*

(in HK$'000)

Internal Rating System					**EAD Calculation**								**Exposure Weighted Average LGD**	**Exposure Weighted Average Maturity Value**	**Risk-weighted Amount**				**Memorandum Items**	
Obligor grade		**PD range**			**Exposures before recognized guarantees / credit derivative contracts**				**Exposures after recognized guarantees / credit derivative contracts**			**EAD**							**Expected loss amount**	**Number of obligors**
Non-defaulted (N) / Defaulted (D)		Lower bound	Upper bound	Average PD	On-balance sheet exposures		Off-balance sheet exposures		On-balance sheet exposures after netting	Off-balance sheet exposures										
					before netting	after netting	Other than derivative contracts and SFTs	Derivative contracts and SFTs		Other than derivative contracts and SFTs	Derivative contracts and SFTs					Of which: Subject to double default framework (a)	Of which: For dilution risk (b)	Of which: For residual value risk (c)		
		(%)	(%)	(%)									**(%)**	**(years)**						
(1)	(2)	(3)	(4)	(5)	(6)(i)	(6)(ii)	(7)	(8)	(9)	(10)	(11)	(12) = (9)+(10)+(11)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1	N	0.03	0.03	0.03								-								
2	N	0.25	0.25	0.25								-								
3	N	0.75	0.75	0.75								-								
4	N	1.50	1.50	1.50								-								
5	N	3.00	3.00	3.00	200,000 (A)&(D)	190,000 (A)&(D)			90,000 (A)			90,000 (A)	45.00	2.50	115,596 (A)				1,215 (A)	1
6	N	6.00	6.00	6.00								-								
7	N	20.00	20.00	20.00								-								
8	D	100.00	100.00	100.00	100,000 (F)	100,000 (F)			100,000 (F)			100,000 (F)	45.00	2.50	62,500 (F)				40,000 (F)	1
												-								
												-								
												-								
												-								
				Total:	**300,000**	**290,000**	**-**	**-**	**190,000**	**-**	**-**	**190,000**			**178,096** *(to Division A)*	**-**	**-**	**-**	**41,215**	**2**

Of which: Exposures subject to asset value correlation multiplier of 1.25															

(a) This column is only applicable to corporate exposures or exposures to public sector entities (excluding sovereign foreign public sector entities).

(b) This column is only applicable to purchased receivables.

(c) This column is only applicable to leasing transactions that expose the reporting AI to residual value risk.

Division B: **Risk-weighted Amount by IRB Class / Subclass** **IRB_CSB**

Name of the AI: **XYZ Bank**

IRB Class : **Corporate Exposures ~~/ Sovereign Exposures / Bank Exposures~~** *(delete where inapplicable)*
IRB Approach : **Foundation IRB Approach ~~/ Advanced IRB Approach~~** *(delete where inapplicable)*
IRB Subclass : **Small-and-medium sized Corporates ~~/ Other Corporates / Specialized lending (high-volatility commercial real estate) / Sovereigns / Sovereign Foreign Public Sector Entities / Multilateral Development Banks / Banks / Securities Firms / Public Sector Entities (Excluding Sovereign Foreign Public Sector Entities) (delete where inapplicable)~~**
Portfolio Type : *(please specify where the reporting AI has more than one internal rating system for an IRB class / subclass)*

(in HK$'000)

Internal Rating System					**EAD Calculation**								**Exposure Weighted Average LGD**	**Exposure Weighted Average Maturity Value**	**Risk-weighted Amount**				**Memorandum Items**	
Obligor grade		**PD range**			**Exposures before recognized guarantees / credit derivative contracts**				**Exposures after recognized guarantees / credit derivative contracts**			**EAD**							**Expected loss amount**	**Number of obligors**
Non-defaulted (N) / Defaulted (D)		Lower bound	Upper bound	Average PD	On-balance sheet exposures		Off-balance sheet exposures		On-balance sheet exposures after netting	Off-balance sheet exposures										
					before netting	after netting	Other than derivative contracts and SFTs	Derivative contracts and SFTs		Other than derivative contracts and SFTs	Derivative contracts and SFTs					Of which: Subject to double default framework (a)	Of which: For dilution risk (b)	Of which: For residual value risk (c)		
		(%)	(%)	(%)									**(%)**	**(years)**						
(1)	(2)	(3)	(4)	(5)	(6)(i)	(6)(ii)	(7)	(8)	(9)	(10)	(11)	(12) = (9)+(10)+(11)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1	N	0.03	0.03	0.03								-								
2	N	0.25	0.25	0.25								-								
3	N	0.75	0.75	0.75								-								
4	N	1.50	1.50	1.50								-								
5	N	3.00	3.00	3.00	100,000 (B)	100,000 (B)			60,000 (B)			60,000 (B)	75.00	2.50	97,578 (B)				1,350 (B)	1
6	N	6.00	6.00	6.00								-								
7	N	20.00	20.00	20.00								-								
8	D	100.00	100.00	100.00								-								
												-								
												-								
												-								
												-								
												-								
Total:					**100,000**	**100,000**	**-**	**-**	**60,000**	**-**	**-**	**60,000**			**97,578**	**-**	**-**	**-**	**1,350**	**1**
															(to Division A)					
Of which: Exposures subject to asset value correlation multiplier of 1.25																				

(a) This column is only applicable to corporate exposures or exposures to public sector entities (excluding sovereign foreign public sector entities).

(b) This column is only applicable to purchased receivables.

(c) This column is only applicable to leasing transactions that expose the reporting AI to residual value risk.

Division B: **Risk-weighted Amount by IRB Class / Subclass** **IRB_CSB**

Name of the AI: **XYZ Bank**

IRB Class : **~~Corporate Exposures /~~ Sovereign Exposures ~~/ Bank Exposures~~** *(delete where inapplicable)*
IRB Approach : **Foundation IRB Approach ~~/ Advanced IRB Approach~~** *(delete where inapplicable)*
IRB Subclass : **~~Small-and-medium sized Corporates / Other Corporates / Specialized lending (high-volatility commercial real estate) /~~**
Sovereigns ~~/ Sovereign Foreign Public Sector Entities / Multilateral Development Banks /~~
~~Banks / Securities Firms / Public Sector Entities (Excluding Sovereign Foreign Public Sector Entities) (delete where inapplicable)~~
Portfolio Type : *(please specify where the reporting AI has more than one internal rating system for an IRB class / subclass)*

(in HK$'000)

Internal Rating System					EAD Calculation															Memorandum Items	
Obligor grade		PD range			Exposures before recognized guarantees / credit derivative contracts				Exposures after recognized guarantees / credit derivative contracts			EAD	Exposure Weighted Average LGD	Exposure Weighted Average Maturity Value	Risk-weighted Amount					Expected loss amount	Number of obligors
Non-defaulted (N) / Defaulted (D)		Lower bound	Upper bound	Average PD	On-balance sheet exposures		Off-balance sheet exposures		On-balance sheet exposures after netting	Off-balance sheet exposures											
					before netting	after netting	Other than derivative contracts and SFTs	Derivative contracts and SFTs		Other than derivative contracts and SFTs	Derivative contracts and SFTs					Of which: Subject to double default framework (a)	Of which: For dilution risk (b)	Of which: For residual value risk (c)			
		(%)	(%)	(%)									(%)	(years)							
(1)	(2)	(3)	(4)	(5)	(6)(i)	(6)(ii)	(7)	(8)	(9)	(10)	(11)	(12) = (9)+(10)+(11)	(13)	(14)	(15)	(16)	(17)	(18)		(19)	(20)
1	N	0.03	0.03	0.03								-									
2	N	0.25	0.25	0.25								-									
3	N	0.75	0.75	0.75								-									
4	N	1.50	1.50	1.50					100,000 (E)			100,000 (E)	27.37	2.50	64,233 (E)					411 (E)	1
5	N	3.00	3.00	3.00								-									
6	N	6.00	6.00	6.00								-									
7	N	20.00	20.00	20.00								-									
8	D	100.00	100.00	100.00								-									
												-									
												-									
												-									
												-									
Total:					-	-	-	-	100,000	-	-	100,000			64,233 *(to Division A)*	-	-	-		411	1
Of which: Exposures subject to asset value correlation multiplier of 1.25																					

(a) This column is only applicable to corporate exposures or exposures to public sector entities (excluding sovereign foreign public sector entities).

(b) This column is only applicable to purchased receivables.

(c) This column is only applicable to leasing transactions that expose the reporting AI to residual value risk.

Division B: **Risk-weighted Amount by IRB Class / Subclass** **IRB_CSB**

Name of the AI: **XYZ Bank**

IRB Class : ~~**Corporate Exposures / Sovereign Exposures /**~~ **Bank Exposures** *(delete where inapplicable)*

IRB Approach : **Foundation IRB Approach** ~~**/ Advanced IRB Approach**~~ *(delete where inapplicable)*

IRB Subclass : ~~**Small-and-medium sized Corporates / Other Corporates / Specialized lending (high-volatility commercial real estate) /**~~
~~**Sovereigns / Sovereign Foreign Public Sector Entities / Multilateral Development Banks /**~~
Banks ~~**/ Securities Firms / Public Sector Entities (Excluding Sovereign Foreign Public Sector Entities) (delete where inapplicable)**~~

Portfolio Type : *(please specify where the reporting AI has more than one internal rating system for an IRB class / subclass)*

(in HK$'000)

Internal Rating System					**EAD Calculation**								**Exposure Weighted Average LGD**	**Exposure Weighted Average Maturity Value**	**Risk-weighted Amount**				**Memorandum Items**	
Obligor grade		**PD range**			**Exposures before recognized guarantees / credit derivative contracts**				**Exposures after recognized guarantees / credit derivative contracts**			**EAD**							**Expected loss amount**	**Number of obligors**
Non-defaulted (N) / Defaulted (D)		Lower bound	Upper bound	Average PD	On-balance sheet exposures		Off-balance sheet exposures		On-balance sheet exposures after netting	Off-balance sheet exposures										
					before netting	after netting	Other than derivative contracts and SFTs	Derivative contracts and SFTs		Other than derivative contracts and SFTs	Derivative contracts and SFTs					Of which: Subject to double default framework (a)	Of which: For dilution risk (b)	Of which: For residual value risk (c)		
		(%)	(%)	(%)									**(%)**	**(years)**						
(1)	(2)	(3)	(4)	(5)	(6)(i)	(6)(ii)	(7)	(8)	(9)	(10)	(11)	(12) = (9)+(10)+(11)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1	N	0.03	0.03	0.03								-								
2	N	0.25	0.25	0.25					40,000 (C)			40,000 (C)	45.00	2.50	19,788 (C)				45 (C)	1
3	N	0.75	0.75	0.75								-								
4	N	1.50	1.50	1.50								-								
5	N	3.00	3.00	3.00								-								
6	N	6.00	6.00	6.00								-								
7	N	20.00	20.00	20.00								-								
8	D	100.00	100.00	100.00								-								
												-								
												-								
												-								
												-								
Total:					-	-	-	-	**40,000**	-	-	**40,000**			**19,788**	-	-	-	**45**	**1**
															(to Division A)					
Of which: Exposures subject to asset value correlation multiplier of 1.25																				

(a) This column is only applicable to corporate exposures or exposures to public sector entities (excluding sovereign foreign public sector entities).

(b) This column is only applicable to purchased receivables.

(c) This column is only applicable to leasing transactions that expose the reporting AI to residual value risk.

Division B: **Risk-weighted Amount by IRB Class / Subclass** IRB_RETAIL

Name of the AI: **XYZ Bank**

IRB Class : **Retail Exposures**
IRB Approach: **Retail IRB Approach**
IRB Subclass : ~~**Residential Mortgages to Individuals / Residential Mortgages to Property-holding Shell Companies /**~~
Qualifying Revolving Retail Exposures ~~**/ Small Business Retail Exposures / Other Retail Exposures to Individuals**~~ *(delete where inapplicable)*
Portfolio Type : *(please specify where the reporting AI has more than one internal rating system for an IRB class / subclass)*

(in HK$'000)

Internal Rating System					EAD Calculation												Memorandum Items	
Pool		PD range			Exposures before recognized guarantees / credit derivative contracts				Exposures after recognized guarantees / credit derivative contracts			EAD	LGD	Risk-weighted Amount			Expected loss amount	Number of obligors
Non-defaulted (N) / Defaulted (D)		Lower bound (%)	Upper bound (%)	Average PD (%)	On-balance sheet exposures		Off-balance sheet exposures		On-balance sheet exposures after netting	Off-balance sheet exposures			(%)					
					before netting	after netting	Other than derivative contracts and SFTs	Derivative contracts and SFTs		Other than derivative contracts and SFTs	Derivative contracts and SFTs				Of which: For dilution risk (a)	Of which: For residual value risk (b)		
(1)	(2)	(3)	(4)	(5)	(6)(i)	(6)(ii)	(7)	(8)	(9)	(10)	(11)	(12) = (9)+(10)+(11)	(13)	(14)	(15)	(16)	(17)	(18)
1	**N**	0.05	0.05	0.05									30.00					
2	**N**	0.05	0.05	0.05									60.00					
3	**N**	0.05	0.05	0.05									85.00					
4	**N**	0.25	0.25	0.25									30.00					
5	**N**	0.25	0.25	0.25									60.00					
6	**N**	0.25	0.25	0.25									85.00					
7	**N**	0.75	0.75	0.75									30.00					
8	**N**	0.75	0.75	0.75	800 (H)	800 (H)			800 (H)			800 (H)	60.00	147 (H)			4 (H)	1
9	**N**	0.75	0.75	0.75									85.00					
10	**N**	3.00	3.00	3.00									30.00					
11	**N**	3.00	2.00	3.00									60.00					
12	**N**	3.00	3.00	3.00									85.00					
13	**N**	6.00	6.00	6.00									30.00					
14	**N**	6.00	6.00	6.00									60.00					
15	**N**	6.00	6.00	6.00									85.00					
16	**N**	15.00	15.00	15.00									30.00					
17	**N**	15.00	15.00	15.00									60.00					
18	**N**	15.00	15.00	15.00									85.00					
19	**D**	100.00	100.00	100.00									30.00					
20	**D**	100.00	100.00	100.00									60.00					
21	**D**	100.00	100.00	100.00									85.00					
22	D	100.00	100.00	100.00									100.00					
				Total:	**800**	**800**	**-**	**-**	**800**	**-**	**-**	**800**		**147**	**-**	**-**	**4**	**1**
														(to Division A)				

(a) This column is only applicable to purchased receivables.
(b) This column is only applicable to leasing transactions that expose the AI to residual value risk.

Division B: **Risk-weighted Amount by IRB Class / Subclass** IRB_EQUINT

Name of the AI: **XYZ Bank**

IRB Class : **Equity Exposures**
IRB Approach: **Market-based Approach: Internal Models Method**
IRB Subclass : **Equity Exposures under Internal Models Method**

(in HK$'000)

Portfolio	EAD Calculation		Risk-weighted Amount Calculation							Memorandum Item
	Exposures before netting	Exposures after netting	Minimum risk-weights (for exposures where minimum risk-weights apply)			Internal models (for exposures where minimum risk-weights do not apply)			Risk-weighted Amount	Number of equity exposures
		(EAD)	EAD	Minimum risk-weight (%)	Risk-weighted amount using minimum risk-weights	EAD	Potential loss	Risk-weighted amount using internal models		
(1)	(2)	(3)	(4)	(5)	(6) = (4)x(5)	(7) = (3)-(4)	(8)	(9) = (8)x12.5	(10) = (6)+(9)	(11)
1 Publicly traded equity exposures	20,000 (G)	20,000 (G)		200		20,000 (G)	4,000 (G)	50,000 (G)	50,000 (G)	1
2 All other equity exposures				300				-	-	
Total :	**20,000**	**20,000**	**-**		**-**	**20,000**	**4,000**	**50,000**	**50,000**	**1**

(to Division A)

Division C: **LGD for Corporate, Sovereign and Bank Exposures**

Name of the AI: **XYZ Bank**

IRB Approach: **Foundation IRB Approach**

IRB Class : **Corporate Exposures ~~/ Sovereign Exposures / Bank Exposures~~** *(delete where inapplicable)*

IRB Subclass : **~~Small-and-medium sized Corporates /~~ Other Corporates / ~~Specialized lending (high-volatility commercial real estate) /~~**
~~Sovereigns / Sovereign Foreign Public Sector Entities / Multilateral Development Banks /~~
~~Banks / Securities Firms / Public Sector Entities (Excluding Sovereign Foreign Public Sector Entities)~~ *(delete where inapplicable)*

Portfolio Type : *(please specify where the reporting AI has more than one internal rating system for an IRB class / subclass)*

(in HK$'000)

Obligor grade		**EAD**	**LGD**								
Average PD		**Total**	**EAD by facility / collateral type**								**Exposure weighted average LGD** *(to Division B)*
			(i) Exposures with specific wrong-way risk	(ii) Subordinated exposures	(iii) Unsecured senior exposures	(iv) Other recognized IRB collateral	(v) Recognized commercial real estate	(vi) Recognized residential real estate	(vii) Recognized financial receivables	(viii) Recognized financial collateral	
	(%)	(3) = (4)+(5)+…+(10)+(11)	LGD: 100%	LGD: 75%	LGD: 45%	LGD: 40%	LGD: 35%	LGD: 35%	LGD: 35%	LGD: 0%	**(%)**
(1)	(2)		(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	0.03	-									
2	0.25	-									
3	0.75	-									
4	1.50	-									
5	3.00	90, 000 (A)			90,000 (A)						45.00
6	6.00	-									
7	20.00	-									
8	100.00	100,000 (F)			100,000 (F)						45.00
		-									
		-									
		-									
		-									
	Total :	**190,000**	-	-	**190,000**	-	-	-	-	-	

Division C: **LGD for Corporate, Sovereign and Bank Exposures** **IRB_FIRBLGD**

Name of the AI: **XYZ Bank**

IRB Approach: **Foundation IRB Approach**

IRB Class : **Corporate Exposures ~~/ Sovereign Exposures / Bank Exposures~~** *(delete where inapplicable)*

IRB Subclass : **Small-and-medium sized Corporates ~~/ Other Corporates / Specialized lending (high-volatility commercial real estate) /~~**
~~Sovereigns / Sovereign Foreign Public Sector Entities / Multilateral Development Banks /~~
~~Banks / Securities Firms / Public Sector Entities (Excluding Sovereign Foreign Public Sector Entities)~~ *(delete where inapplicable)*

Portfolio Type : *(please specify where the reporting AI has more than one internal rating system for an IRB class / subclass)*

(in HK$'000)

Obligor grade		**EAD**	**LGD**								
Average PD		**Total**	**EAD by facility / collateral type**								**Exposure weighted average LGD** *(to Division B)*
			(i) Exposures with specific wrong-way risk	(ii) Subordinated exposures	(iii) Unsecured senior exposures	(iv) Other recognized IRB collateral	(v) Recognized commercial real estate	(vi) Recognized residential real estate	(vii) Recognized financial receivables	(viii) Recognized financial collateral	
	(%)	(3) = (4)+(5)+…+(10)+(11)	LGD: 100%	LGD: 75%	LGD: 45%	LGD: 40%	LGD: 35%	LGD: 35%	LGD: 35%	LGD: 0%	**(%)**
(1)	(2)		(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	0.03	-									
2	0.25	-									
3	0.75	-									
4	1.50	-									
5	3.00	60, 000 (B)		60,000 (B)							75.00
6	6.00	-									
7	20.00	-									
8	100.00	-									
		-									
		-									
		-									
		-									
	Total :	**60,000**	**-**	**60,000**	**-**	**-**	**-**	**-**	**-**	**-**	

Division C: **LGD for Corporate, Sovereign and Bank Exposures** **IRB_FIRBLGD**

Name of the AI: **XYZ Bank**

IRB Approach: **Foundation IRB Approach**

IRB Class : **~~Corporate Exposures /~~ Sovereign Exposures ~~/ Bank Exposures~~** *(delete where inapplicable)*

IRB Subclass : **~~Small-and-medium sized Corporates / Other Corporates / Specialized lending (high-volatility commercial real estate) /~~**
Sovereigns ~~/ Sovereign Foreign Public Sector Entities / Multilateral Development Banks /~~
~~Banks / Securities Firms / Public Sector Entities (Excluding Sovereign Foreign Public Sector Entities)~~ *(delete where inapplicable)*

Portfolio Type : *(please specify where the reporting AI has more than one internal rating system for an IRB class / subclass)*

(in HK$'000)

Obligor grade		**EAD**	**LGD**								
Average PD		**Total**	**EAD by facility / collateral type**								**Exposure weighted average LGD** *(to Division B)*
			(i) Exposures with specific wrong-way risk	(ii) Subordinated exposures	(iii) Unsecured senior exposures	(iv) Other recognized IRB collateral	(v) Recognized commercial real estate	(vi) Recognized residential real estate	(vii) Recognized financial receivables	(viii) Recognized financial collateral	
	(%)	(3) = (4)+(5)+…+(10)+(11)	LGD: 100%	LGD: 75%	LGD: 45%	LGD: 40%	LGD: 35%	LGD: 35%	LGD: 35%	LGD: 0%	**(%)**
(1)	(2)		(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	0.03	-									
2	0.25	-									
3	0.75	-									
4	1.50	100,000 (E)			29,086 (E)	35,714 (E)				35,200 (E)	27.37
5	3.00	-									
6	6.00	-									
7	20.00	-									
8	100.00	-									
		-									
		-									
		-									
		-									
Total :		**100,000**	**-**	**-**	**29,086**	**35,714**	**-**	**-**	**-**	**35,200**	

Division C: **LGD for Corporate, Sovereign and Bank Exposures** **IRB_FIRBLGD**

Name of the AI: **XYZ Bank**

IRB Approach: **Foundation IRB Approach**

IRB Class : **~~Corporate Exposures / Sovereign Exposures /~~ Bank Exposures** *(delete where inapplicable)*

IRB Subclass : **~~Small-and-medium sized Corporates / Other Corporates / Specialized lending (high-volatility commercial real estate) /~~**
~~Sovereigns / Sovereign Foreign Public Sector Entities / Multilateral Development Banks /~~
Banks / ~~Securities Firms / Public Sector Entities (Excluding Sovereign Foreign Public Sector Entities)~~ *(delete where inapplicable)*

Portfolio Type : *(please specify where the reporting AI has more than one internal rating system for an IRB class / subclass)*

(in HK$'000)

Obligor grade		**EAD**	**LGD**								
Average PD		**Total**	**EAD by facility / collateral type**								**Exposure weighted average LGD** *(to Division B)*
			(i) Exposures with specific wrong-way risk	(ii) Subordinated exposures	(iii) Unsecured senior exposures	(iv) Other recognized IRB collateral	(v) Recognized commercial real estate	(vi) Recognized residential real estate	(vii) Recognized financial receivables	(viii) Recognized financial collateral	
	(%)	(3) = (4)+(5)+…+(10)+(11)	LGD: 100%	LGD: 75%	LGD: 45%	LGD: 40%	LGD: 35%	LGD: 35%	LGD: 35%	LGD: 0%	**(%)**
(1)	(2)		(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	0.03	-									
2	0.25	40,000 (C)			40,000 (C)						45.00
3	0.75	-									
4	1.50	-									
5	3.00	-									
6	6.00	-									
7	20.00	-									
8	100.00	-									
		-									
		-									
		-									
		-									
	Total :	**40,000**	**-**	**-**	**40,000**	**-**	**-**	**-**	**-**	**-**	

Division F: EL-EP Calculation under IRB Approach

IRB_ELEP
(in HK$'000)

Name of AI: XYZ Bank

Item	IRB Class	Expected Loss Amount (EL Amount)			Eligible Provisions (EP)			EL-EP Calculation	
		Non-defaulted exposures (a)	Defaulted exposures (b)	Total (c) = (a)+(b)	Non-defaulted exposures (d)	Defaulted exposures (e)	Total (f)= (d)+(e)	Excess of total EL amount over total EP (g)	Excess of total EP over total EL amount (h)
1.	**Corporate exposures**, of which	2,565	40,000	42,565	2,032	40,000	42,032		
	(a) Specialized lending under supervisory slotting criteria approach (other than HVCRE exposures)								
	(b) Specialized lending (high-volatility commercial real estate)								
	(c) Small-and-medium sized corporates	1,350 (B)		1,350	1,032 (B)		1,032		
	(d) Other corporates	1,215 (A)	40,000 (F)	41,215	1,000 (A)	40,000 (F)	41,000		
2.	**Sovereign exposures**, of which	411		411	0		-		
	(a) Sovereigns	411(E)		411	0 (E)				
	(b) Sovereign foreign public sector entities								
	(c) Multilateral development banks								
3.	**Bank exposures**, of which	45		45	688		688		
	(a) Banks	45 (C)		45	688 (C)		688		
	(b) Securities firms								
	(c) Public sector entities (excluding sovereign foreign public sector entities)								
4.	**Retail exposures**, of which	4		4	0				
	(a) Residential mortgages								
	(b) Qualifying revolving retail exposures	4(H)		4	0				
	(c) Small business retail exposures								
	(d) Other retail exposures to individuals								
5.	**Total**	3,025	40,000	43,025	2,720	40,000	42,720		
6.	**Deduction from CET1 capital** [Item 6 = Item 5(c) - Item 5(f)]							305	
7.	**Surplus provisions** [Item 7 = Item 5(f) - Item 5(c)]								-
8.	**0.6% of total risk-weighted amount for credit risk (IRB Approach)** [Item 8 = Item 8 of Form_IRB_TOTCRWA x 0.6%]								2,607
9.	**Surplus provisions added to Tier 2 capital** [Min(Item 7, Item 8)]								-

- -

Completion Instructions

Return of Capital Adequacy Ratio
Part IIId – Risk-weighted Amount for Credit Risk
(Securitization Exposures)
Form MA(BS)3(IIId)

Introduction

1. Form MA(BS)3(IIId) of Part III should be completed by each authorized institution ("AI") incorporated in Hong Kong that has ***securitization exposures***[1] booked in its ***banking book***.

2. This Form contains the following Divisions:

   (a) Division A is a summary table showing the total ***risk-weighted amounts*** ("RWAs") of the securitization exposures of a reporting AI and the capital deduction required in respect of its ***securitization transactions*** or securitization exposures;

   (b) Division B captures securitization exposures (other than ***re-securitization exposures***) that are subject to the ***securitization internal ratings-based approach*** (***SEC-IRBA***);

   (c) Division C1 captures securitization exposures (other than re-securitization exposures) that are subject to the ***securitization external ratings-based approach*** (***SEC-ERBA***) where the risk-weights are determined based on—

      (i) ***long-term ECAI issue specific ratings*** or ***long-term inferred ratings***; or

      (ii) (if the reporting AI has an ***IAA approval*** to use the ***internal assessment approach*** (***IAA***)) ***internal credit ratings*** mapped to equivalent long-term ECAI issue specific ratings;

   (d) Division C2 captures securitization exposures (other than re-securitization exposures) that are subject to the SEC-ERBA where the risk-weights are determined based on—

      (i) ***short-term ECAI issue specific ratings*** or ***short-term inferred ratings***; or

[1] For example, asset-backed securities, mortgage-backed securities, credit enhancements, liquidity facilities, interest rate or currency swaps, credit derivative contracts, tranched credit protection, and reserve accounts, such as cash collateral accounts, recorded as an asset by the originating institution.

(ii) (if the reporting AI has an IAA approval to use the IAA) internal credit ratings mapped to equivalent short-term ECAI issue specific ratings;

(e) Division D1 captures securitization exposures (other than re-securitization exposures) that are subject to the ***securitization standardized approach*** (***SEC-SA***);

(f) Division D2 captures re-securitization exposures that are subject to the SEC-SA; and

(g) Division E captures securitization exposures (including re-securitization exposures) that are subject to the ***securitization fall-back approach*** (***SEC-FBA***).

3. In each of Divisions B, D1, D2 and E, columns (1) to (3) are for reporting of on-balance sheet securitization exposures while columns (4) to (7) are for reporting of off-balance sheet securitization exposures. In Divisions C1 and C2, on-balance sheet securitization exposures and off-balance sheet securitization exposures must be reported in columns (1) to (3a) and columns (4) to (7a) respectively. Columns (3a) and (7a) are subsets of columns (3) and (7).

4. This Form and its completion instructions should be read in conjunction with the Banking (Capital) Rules ("BCR") and the relevant supervisory policy/guidance related to the capital adequacy framework (in particular, the SPM module CR-G-12 "Credit Risk Transfer Activities" (to the extent related to credit assessments and significant credit risk transfer) and the Q&As on the securitization framework).

Section A: Definitions and General Instructions

In this Form—

5. "Exposure Amount before CRM" means the ***exposure amount*** of a securitization exposure before taking into account any ***Part 7 credit risk mitigation*** ("Part 7 CRM") obtained for the exposure, but net of any amounts that are permitted to be deducted from the exposure amount (e.g. ***specific provisions***, write-offs and non-refundable purchase price discounts) under section 236(3) of the BCR.

6. "Principal Amount" of an off-balance sheet exposure has the meaning given by paragraph (b) of the definition of ***principal amount*** in section 227(1) of the BCR. However, if the off-balance sheet exposure concerned is a ***default risk exposure*** arising from a ***derivative contract***, "Principal Amount" means the nominal ***notional amount*** of the contract, which should not be confused with any effective notional amount or adjusted notional calculated for the contract under Part 6A of the BCR.

7. "Senior exposures" means securitization exposures in ***senior tranches*** (See **Annex IIId-A** for more information on the determination of seniority).

8. "Non-senior exposures" means securitization exposures in ***non-senior tranches***.

9. “Senior long-term securitization exposures” means senior exposures that have a long-term ECAI issue specific rating or a long-term inferred rating.

10. “Non-senior long-term securitization exposures” means non-senior exposures that have a long-term ECAI issue specific rating or a long-term inferred rating.

11. “Senior short-term securitization exposures” means senior exposures that have a short-term ECAI issue specific rating or a short-term inferred rating.

12. “Non-senior short-term securitization exposures” means non-senior exposures that have a short-term ECAI issue specific rating or a short-term inferred rating.

13. “Risk-weight” means—

(a) in the case of a securitization exposure (other than a re-securitization exposure)—the risk-weight applicable to the exposure determined by using the SEC-IRBA, SEC-ERBA, SEC-SA or SEC-FBA—

(i) after taking into account the risk-weight floor of 15% (see section 240(1) of the BCR) and, if applicable, the risk-weight floor set out in section 240(3) or (4) and the risk-weight cap for senior tranches (see section 241 of the BCR); and

(ii) without taking into account any Part 7 CRM;

(b) in the case of a re-securitization exposure—the risk-weight applicable to the exposure determined by using the SEC-SA or SEC-FBA—

(i) after taking into account the risk-weight floor of 100% (see section 240(2) of the BCR) and if applicable, the risk-weight floor set out in section 240(4) of the BCR; and

(ii) without taking into account any Part 7 CRM;

(c) in the case of Part 7 CRM obtained for a securitization exposure—the risk-weight applicable to—

(i) the ***recognized collateral*** concerned determined in accordance with Part 4, 6 or 7 and in compliance with Division 5 of Part 7 of the BCR; or

(ii) the ***credit protection provider*** of the ***recognized guarantee*** or ***recognized credit derivative contract*** concerned, as the case may be, determined in accordance with Part 4 or 6 and in compliance with Division 5 of Part 7 of the BCR;

(d) in the case of assets held by a ***special purpose entity*** (***SPE***) in an ***eligible synthetic securitization transaction*** described in section 230(2A) of the BCR—the weighted-average risk-weight of the assets determined in accordance with Part 4 of the BCR.

A.1 Reporting of underlying exposures of securitization transaction where reporting AI is *originating institution*

14. The AI must report the ***underlying exposures*** of a ***non-eligible securitization transaction*** as follows—

(a) report the underlying exposures in Form MA(BS)3(IIIa), Form MA(BS)3(IIIb) or Form MA(BS)3(IIIc) (if the underlying exposures are non-securitization exposures) or this Form (if the underlying exposures are securitization exposures), as if the underlying exposures had not been securitized; and

(b) if the transaction is a ***synthetic securitization transaction***, the underlying exposures must be reported without taking into account the effect of any credit risk mitigation ("CRM") used for transferring the credit risk of the underlying exposures to other parties to the transaction.

15. If the AI has served a notice to the HKMA under section 230(3) of the BCR for applying the treatment set out in section 230(1), (2) or (2A) of the BCR to the underlying exposures of an ***eligible securitization transaction***—

(a) in the case where the transaction is a ***traditional securitization transaction***, the AI is not required to report the underlying exposures in any of Form MA(BS)3(IIIa), Form MA(BS)3(IIIb), Form MA(BS)3(IIIc) and this Form;

(b) in the case where the transaction is a synthetic securitization transaction—

(i) subject to subparagraph (ii), the AI must report the underlying exposures and the effect of the CRM used for transferring the credit risk of the underlying exposures in Form MA(BS)3(IIIa), Form MA(BS)3(IIIb) or Form MA(BS)3(IIIc) (if the underlying exposures are non-securitization exposures) or this Form (if the underlying exposures are securitization exposures);

(ii) if ***tranched credit protection*** is obtained by the AI for the underlying exposures, the AI must report the underlying exposures and the effect of the CRM used for transferring the credit risk of the underlying exposures in this Form in accordance with paragraphs 16, 17, 34 and 35 below.

A.2 Decomposition of exposures covered by tranched credit protection

16. Subject to paragraph 17, if a securitization exposure or non-securitization exposure is covered by tranched credit protection ("protected exposure"), no matter whether the protection is provided or obtained by the reporting AI, the protected exposure must be decomposed[2] into a protected sub-tranche and an unprotected sub-tranche. The sub-tranches resulted from decomposing a non-

[2] The sub-tranches resulted from the decomposition are not considered as re-securitization exposures for capital adequacy purposes.

securitization exposure must be treated as securitization exposures for the purposes of calculating their RWAs.

17. When decomposing an exposure for which the AI has obtained tranched credit protection, the decomposition must take into account—

(a) if there is a ***maturity mismatch***—the adjustment to the value of the credit protection required under section 246 of the BCR; and

(b) if the tranched credit protection is in the form of recognized collateral and the reporting AI uses the ***comprehensive approach*** or Formula 19 in Part 6 of the BCR to take into account the credit risk mitigation effect ("CRM effect") of the collateral—the adjustment to the value of the credit protection resulted from any applicable ***standard supervisory haircuts*** applied to the collateral.

A.3 Reporting of derivative contracts entered into under securitization transactions

18. If a reporting AI's securitization exposure is a default risk exposure arising from a derivative contract and the risk-weight of the exposure is determined by using the SEC-IRBA, SEC-ERBA, SEC-SA or SEC-FBA, the default risk exposure must be reported in this Form.

A.4 Reporting of eligible ABCP exposures risk-weighted by using the IAA

19. A reporting AI with an IAA approval to risk-weight ***eligible ABCP exposures*** by using the IAA must include the eligible ABCP exposures in the amounts reported in columns (1) to (3) and (4) to (7) of Divisions C1 and C2, and the RWAs of the eligible ABCP exposures must also be reported separately in columns (3a) and (7a) of those Divisions.

A.5 Treatment of default risk and *dilution risk* in respect of purchased receivables under SEC-IRBA

20. For cases where the default and dilution risks are not treated in an aggregated manner, a reporting AI must determine in a prudent manner how the K_{IRB} of the entire pool of the underlying exposures concerned should be calculated in order to adequately reflect the extent to which the AI is exposed to the two risks (see section 252(3) of the BCR). Reporting AIs may refer to paragraphs 99.4 to 99.19 of Chapter CRE99 of the Basel Framework[3] for guidance.

A.6 Tranche maturity of tranche in securitization transaction

21. To avoid doubt, if a reporting AI uses Formula 24 under section 248 of the BCR to calculate the tranche maturity (M_T) of a ***tranche*** for the purpose of reporting in this Form the RWA of a securitization exposure in the tranche as of a particular position date, the cash flows (CF_t) used in the Formula should be those that are

[3] https://www.bis.org/basel_framework/chapter/CRE/99.htm?inforce=20191215

contractually payable under the tranche from the position date to the final maturity of the tranche.

Section B: Reporting Arrangements for Division A

22. Column (1) is for reporting the total RWAs of all of a reporting AI's securitization exposures to securitization transactions and the capital deductions required in respect of securitization transactions. If the reporting AI is the originating institution of any of these securitization transactions, it must report the RWAs of its securitization exposures to, and the capital deductions in respect of, the transactions originated by it in Column (2) as a subset of the amounts reported in Column (1).

23. Items *A5(a)* and *(b)* are to be filled in by reporting AIs that are originating institutions. If a reporting AI, which is the originating institution of a securitization transaction (other than a re-securitization transaction), has, in accordance with section 242 of the BCR, taken the maximum capital charge calculated for the transaction under that section as the total capital charge of all the AI's securitization exposures to the transaction, the AI—

    (a) must report the corresponding RWA (i.e. the maximum capital charge times 12.5) in either item *A5(a)* or *(b)* based on the original approach used by the AI for risk-weighting the securitization exposures; and

    (b) must not adjust the RWAs of the securitization exposures reported in any of Divisions B to E to reconcile with the amount reported in item *A5(a)* or *(b)* (in other words, the amounts reported in any of these Divisions must be based on risk-weights without considering the maximum capital charge).

Section C: Reporting Arrangements for Divisions B to E

C.1 Securitization Exposures not covered by Part 7 CRM

24. Subject to paragraph 26, if a reporting AI has not obtained any Part 7 CRM for its securitization exposure—

    (a) the exposure amount before CRM of the exposure must be reported in column (1) or (5), as the case requires;

    (b) if the exposure is an off-balance sheet exposure, its principal amount must be reported in column (4);

    (c) the exposure amount after CRM of the exposure, which is the same amount as the exposure amount before CRM, must be reported in column (2) or (6), as the case requires;

    (d) the RWA of the exposure, which is the product of the amount reported in column (2) or (6) and the risk-weight applicable to the exposure, must be

reported in column (3) or (7) (and, if applicable, column (3a) or (7a) of Division C1 or C2), as the case requires; and

(e) all the amounts above must be reported in the same row that corresponds to the risk-weight applicable to the exposure.

25. The reporting arrangements in paragraph 24 also apply to cases where—

(a) the securitization exposure is a default risk exposure calculated by using the ***SA-CCR approach*** or the ***IMM(CCR) approach***; and

(b) the collaterals received by the reporting AI for the exposure have already been included in—

(i) the calculation of haircut value of net collateral held under section 226BJ of the BCR when calculating the default risk exposure under the SA-CCR approach; or

(ii) the estimation mentioned in section 226H(2)(a) of the BCR when calculating the default risk exposure under the IMM(CCR) approach.

26. In the case of a securitization exposure arising from credit protection provided by the reporting AI—

(a) if the credit protection is a full or proportional credit protection provided to another securitization exposure ("protected exposure")—

(i) for the purpose of paragraphs 24(a) and 24(b), the AI must determine the amount to be reported in column (1) or the amounts to be reported in columns (4) and (5), as the case requires, as if it directly held that portion of the protected exposure on which it has provided the credit protection; and

(ii) for the purpose of paragraph 24(e), the risk-weight applicable to the AI's exposure is the risk-weight applicable to the protected exposure; or

(b) if the credit protection is a tranched credit protection provided to another securitization exposure or a non-securitization exposure ("protected exposure")—

(i) for the purpose of paragraphs 24(a) and 24(b), the AI must report the amount of the protected sub-tranche of the protected exposure in column (1) or in columns (4) and (5) (see paragraph 16 above on decomposition of the protected exposure); and

(ii) for the purpose of paragraph 24(e), the risk-weight applicable to the AI's exposure is the risk-weight applicable to the protected sub-tranche determined by using the SEC-IRBA, SEC-ERBA, SEC-SA or SEC-FBA, as the case requires, and in accordance with sections 240, 241 and 249 of the BCR.

C.2 Securitization Exposures covered by Full or Proportional Credit Protection - Reporting Arrangements for Division B

27. If Part 7 CRM is obtained by a reporting AI for its securitization exposure and the exposure is risk-weighted by using the SEC-IRBA, the AI must report the exposure amount before CRM of the exposure in column (1) or (5) of the row corresponding to the risk-weight applicable to the exposure. If the exposure is an off-balance sheet exposure, the principal amount of the exposure must be reported in column (4) of the same row.

28. If the Part 7 CRM is a recognized guarantee or a recognized credit derivative contract, the AI must, after adjusting the value of the credit protection for any maturity mismatch in accordance with section 246 of the BCR—

(a) report in the row corresponding to the risk-weight applicable to the securitization exposure and—

(i) in column (2) or (6)—the uncovered portion of the exposure determined in accordance with the ***substitution framework*** under Part 6 of the BCR; and

(ii) in column (3) or (7)—the RWA of the uncovered portion; and

(b) report in the row corresponding to the risk-weight applicable to the credit protection provider concerned and—

(i) in column (2) or (6)—the covered portion of the exposure determined in accordance with the substitution framework; and

(ii) in column (3) or (7)—the RWA of the covered portion.

29. If the Part 7 CRM is recognized collateral, the AI must report—

(a) the net credit exposure (after adjusting the value of the credit protection for any maturity mismatch in accordance with section 246 of the BCR) determined by using Formula 19 in Part 6 of the BCR in column (2) or (6); and

(b) the RWA of the net credit exposure in column (3) or (7).

All the amounts above must be reported in the same row corresponding to the risk-weight applicable to the securitization exposure.

C.3 Securitization Exposures covered by Full or Proportional Credit Protection - Reporting Arrangements for Divisions C1 to E

30. If Part 7 CRM is obtained by a reporting AI for its securitization exposure and the exposure is risk-weighted by using the SEC-ERBA, SEC-SA or SEC-FBA, the AI must report the exposure amount before CRM of the exposure in column (1) or (5) of the row corresponding to the risk-weight applicable to the exposure.

If the exposure is an off-balance sheet exposure, the principal amount of the exposure must be reported in column (4) of the same row.

31. Reporting of CRM effects of recognized collateral subject to the ***simple approach***, recognized guarantees and recognized credit derivative contracts

(a) If the securitization exposure is an on-balance sheet exposure, a default risk exposure or an exposure arising from the provision of unfunded credit protection, the AI must, after adjusting the value of the credit protection pursuant to Parts 4 and 7 of the BCR (e.g. section 100 for ***currency mismatch*** and section 246 for maturity mismatch)—

(i) report the ***credit protection uncovered portion*** of the exposure in column (2) or (6) of the row corresponding to the risk-weight applicable to the securitization exposure;

(ii) report the ***credit protection covered portion*** of the exposure in column (2) or (6) of the row corresponding to the risk-weight applicable to the credit protection provider or collateral concerned; and

(iii) report—

(A) the RWA of the credit protection uncovered portion in column (3) or (7) (and, if applicable, column (3a) or (7a) of Division C1 or C2) of the row corresponding to the risk-weight applicable to the securitization exposure; and

(B) the RWA of the credit protection covered portion in column (3) or (7) of the row corresponding to the risk-weight applicable to the credit protection provider or collateral concerned.

(b) If the securitization exposure is an off-balance sheet exposure other than one that falls within paragraph (a), the same reporting arrangements in paragraph (a) apply except that—

(i) the references to "credit protection uncovered portion" in paragraphs (a)(i) and (a)(iii) must be construed to mean the product of the credit protection uncovered portion of the exposure and the factor applicable to the exposure specified in section 235(2)(c) of the BCR; and

(ii) the references to "credit protection covered portion" in paragraphs (a)(ii) and (a)(iii) must be construed to mean the product of the credit protection covered portion of the exposure and the factor applicable to the exposure specified in section 235(2)(c) of the BCR.

32. Reporting of CRM effect of recognized collateral subject to the comprehensive approach

(a) The net credit exposure (after adjusting the value of the credit protection for any maturity mismatch in accordance with section 246 of the BCR) calculated under section 87 or 88 of the BCR, as the case requires, must be reported in column (2) or (6).

(b) The RWA of the net credit exposure must be reported in column (3) or (7) (and, if applicable, column (3a) or (7a) of Division C1 or C2).

All the amounts above must be reported in the same row corresponding to the risk-weight applicable to the securitization exposure.

C.4 Securitization Exposure or Non-securitization Exposure covered by Tranched Credit Protection

33. Subject to paragraphs 34 and 35, if tranched credit protection is obtained by a reporting AI for a securitization exposure or non-securitization exposure—

(a) the amounts of the unprotected sub-tranche and protected sub-tranche must be reported in column (1) or in columns (4) and (5), and in the rows corresponding to the risk-weights applicable to the sub-tranches (i.e. the risk-weights determined by using the SEC-IRBA, SEC-ERBA, SEC-SA or SEC-FBA, as the case requires, and in accordance with sections 240, 241 and 249 of the BCR);

(b) the amount of the unprotected sub-tranche must be reported in column (2) or (6) of the row corresponding to the risk-weight applicable to the unprotected sub-tranche;

(c) the RWA of the unprotected sub-tranche must be reported in column (3) or (7) (and, if applicable, column (3a) or (7a) of Division C1 or C2) of the row corresponding to the risk-weight applicable to the unprotected sub-tranche;

(d) in cases where the tranched credit protection is in the form of—

(i) recognized collateral subject to the simple approach;

(ii) recognized guarantee; or

(iii) recognized credit derivative contract,

the amount of the protected sub-tranche must be reported in column (2) or (6) and the RWA of the protected sub-tranche must be reported in column (3) or (7). Both of the two amounts must be reported in the row corresponding to the risk-weight applicable to the collateral or credit protection provider concerned.

34. If—

(a) tranched credit protection is obtained by a reporting AI for securitization exposures or non-securitization exposures ("protected exposures") through a ***credit-linked note*** issued by the AI; and

(b) the credit derivative contract embedded in the credit-linked note is a recognized credit derivative contract[4],

subject to paragraph 17 above, the AI may only treat that amount of the protected exposures which is equivalent to the cash funding received by the AI from the credit-linked note as being fully covered and must treat that portion of the protected exposures covered by the cash funding as a protected sub-tranche collateralized by cash deposit[5]. The reporting arrangements are same as those in paragraph 33.

35. If—

(a) a reporting AI is the originating institution of an eligible synthetic securitization transaction;

(b) tranched credit protection in the form of recognized guarantee or recognized credit derivative contract is obtained by the AI for the underlying exposures of the eligible synthetic securitization transaction;

(c) the guarantor of the recognized guarantee or the ***protection seller*** of the recognized credit derivative contract, as the case may be, is the SPE in the eligible synthetic securitization transaction;

(d) all the conditions in section 2(a) of Schedule 10 to the BCR are satisfied in respect of the SPE and its assets; and

(e) the AI has served a notice to the HKMA under section 230(3) of the BCR for applying the treatment set out in section 230(2A) of the BCR to the underlying exposures of the eligible synthetic securitization transaction,

the AI must report the underlying exposures and the CRM effect of the recognized guarantee or recognized credit derivative contract as follows—

(f) the amounts of the unprotected sub-tranche and protected sub-tranche of the underlying exposures must be reported in column (1) (and/or columns (4) and (5) if applicable) and in the rows corresponding to the risk-weights applicable to the sub-tranches (i.e. the risk-weights determined by using the SEC-IRBA, SEC-ERBA, SEC-SA or SEC-FBA, as the case requires, and in accordance with sections 240, 241 and 249 of the BCR);

(g) the amount of the unprotected sub-tranche must be reported in column (2) (and/or column (6) if applicable) of the row corresponding to the risk-weight applicable to the unprotected sub-tranche;

(h) the amount of the protected sub-tranche must be reported in column (2) (and/or column (6) if applicable) of the row corresponding to the weighted-average risk-weight of the assets held by the SPE (in other words, the

[4] For the purpose of determining whether the credit derivative contract qualifies as a recognized credit derivative contract, the AI may consider the condition in section 99(1)(b) to be met.
[5] See section 101(8) of the BCR and paragraph 153 of the completion instructions for Form MA(BS)3Part IIIc.

weighted-average risk-weight of the SPE's assets is treated as the risk-weight applicable to the SPE (see section 230(2B) of the BCR));

(i) the RWA of the unprotected sub-tranche must be reported in column (3) (and/or column (7) if applicable) of the row corresponding to the risk-weight applicable to the unprotected sub-tranche; and

(j) the RWA of the protected sub-tranche must be reported in column (3) (and/or column (7) if applicable) of the row corresponding to the weighted-average risk-weight of the assets held by the SPE.

Section D: Reporting of overlapping securitization exposures

36. If there is an overlapping portion in a reporting AI's securitization exposures to a securitization transaction and the overlapping is between securitization exposures booked in the banking book and the trading book of the AI, the overlapping portion that is attributed to the exposures booked in the banking book must be reported in this Form. However, if the overlapping portion is attributed to the exposures booked in the trading book, the overlapping portion must be reported in Form MA(BS)3(IV) (see **Annex IIId-B** for illustration).

Hong Kong Monetary Authority

June 2021

Guidance on determining the seniority of tranches

1. If several senior tranches in the same securitization transaction have different maturities and the tranches share pro rata loss allocation, the different maturities shall have no effect on the seniority of these tranches since they benefit from the same level of credit enhancement.

2. In a typical synthetic securitization transaction, a tranche that does not have an ECAI issue specific rating ("relevant tranche") would be treated as a senior tranche, provided that an ***inferred rating*** can be attributed to the relevant tranche by reference to a ***rated*** lower tranche that is a senior tranche.

3. In a traditional securitization transaction where all tranches above the ***first loss tranche*** are rated, the most highly rated position would be treated as a senior tranche. If there are several tranches that share the same rating, only the tranche that is eligible for the highest priority of payment or repayment will be treated as a senior tranche. If there are several senior tranches having different ratings and the different ratings only result from a difference in maturity, all of these tranches should be treated as a senior tranche.

4. A ***liquidity facility*** supporting an ***ABCP programme*** may be treated as a senior tranche if—

   (a) the facility is sized to cover all of the outstanding commercial papers and other senior debts supported by the pool of underlying exposures concerned; and

   (b) no cash flows from the pool of underlying exposures can be transferred to creditors (other than the person providing the facility) until the drawn portion of the liquidity facility is repaid in full.

5. If a liquidity facility supporting an ABCP programme does not meet the conditions in paragraphs 4(a) and 4(b), or if for other reasons the facility constitutes a mezzanine position in economic substance rather than a senior position in the pool of underlying exposures concerned, the facility should be treated as a non-senior tranche.

Annex IIId-B

Treatment of Overlapping Securitization Exposures

1. A reporting AI may determine the amount of the overlapping portion using any of the two different approaches described below.

2. The first approach is to split its securitization exposures to a securitization transaction into—

   (a) portions that overlap with another securitization exposure held by it to the same transaction; and

   (b) other portions that do not overlap with each other.

3. The second approach is to expand its securitization exposures to a securitization transaction by assuming for capital adequacy purposes that the institution's obligations with respect to one of the securitization exposures are larger than those established contractually. This could be done, say, by expanding the trigger events to exercise a facility and/or the extent of the institution's obligations under the facility. For example, if a liquidity facility provided by an authorized institution to an ABCP programme is not contractually required to cover defaulted assets or will not fund the programme under certain circumstances, the institution may regard the facility overlaps with the commercial papers ("CPs") issued by the ABCP conduit held by the institution as if—

   (a) its obligations under the facility covered the defaulted assets; or

   (b) the circumstances concerned were trigger events which, if occur, will allow the facility to be drawn,

   such that the facility would preclude all losses on the CPs. In this case, the institution is not required to hold regulatory capital for the CPs. However, the regulatory capital it must hold against the facility must be calculated based on the obligations as expanded in the manner described in paragraph (a) and (b) instead of those established contractually.

Illustrative Examples of the First Approach

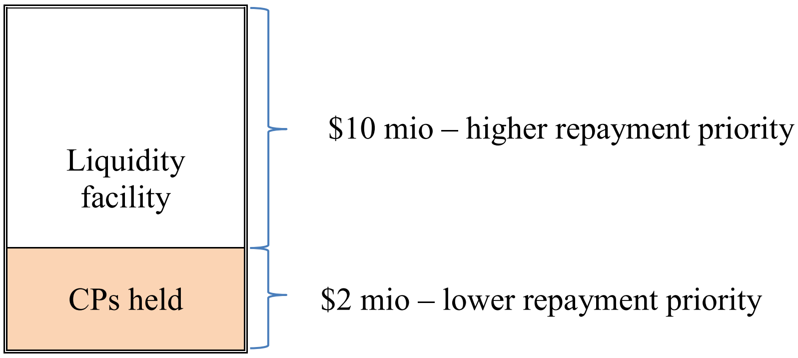
4. An originating institution of an ABCP programme provides a liquidity facility of \$10 million to the programme. The institution also holds \$2 million of the CPs (rating: A-2) issued under the programme. The overlapping portion of these two exposures is \$2 million and the liquidity facility has a higher seniority than the CPs. Other details are as follows:

   (a) the risk-weight of the liquidity facility ($RW_{facility}$) is 15%;

   (b) the CCF applicable to the liquidity facility is 100%;

(c) the risk-weight of the CPs is 50% (RW_{credit});

(d) the market risk capital charge factor for specific risk of the CPs under the STM approach is 4% which is equivalent to a risk-weight of 50% (RW_{market}).



A. <u>Overlapping within Banking Book (i.e. liquidity facility overlaps with CPs that are held in the banking book)</u>

5. Since the liquidity facility has a higher seniority, fulfilling the AI's obligations with respect to the CPs by absorbing credit losses on the underlying exposures first will preclude a loss from the facility, the overlapping portion is attributed to the CPs.

(a) The RWA of the overlapping portion:

$= 2 \text{ million} \times RW_{credit}$

$= 2 \text{ million} \times 50\%$

$= 1 \text{ million}$ --- (1)

(b) The RWA of the portion of the liquidity facility that is not the overlapping portion:

$= (10 \text{ million} - 2 \text{ million}) \times CCF \times RW_{liquidity}$

$= 8 \text{ million} \times 100\% \times 15\%$

$= 1.2 \text{ million}$ --- (2)

6. The <u>total RWA</u> of the institution's securitization exposures to the programme:

$= (1) + (2)$

$= 1 \text{ million} + 1.2 \text{ million}$

$= 2.2 \text{ million}$

B. Overlapping between Banking Book and Trading Book (i.e. liquidity facility overlaps with CPs that are held in the trading book)

7. If the overlapping portion is attributed to the liquidity facility, RWA of the overlapping portion

$= 2 \text{ million} \times CCF \times RW_{\text{liquidity}}$

$= 2 \text{ million} \times 100\% \times 15\%$

$= 0.3 \text{ million}$

8. If the overlapping portion is attributed to the CPs, the RWA of the overlapping portion

$= 2 \text{ million} \times RW_{\text{market}}$

$= 2 \text{ million} \times 50\ \%$

$= 1 \text{ million}$

9. The overlapping portion is attributed to the CPs as this results in a higher RWA. Hence, the RWA of 1 million must be reported in Form MA(BS)3(IV).

10. The RWA of the portion of the liquidity facility that is not the overlapping portion

$= (10 \text{ million} - 2 \text{ million}) \times CCF \times RW_{\text{liquidity}}$

$= 8 \text{ million} \times 100\% \times 15\%$

$= 1.2 \text{ million}$ *(To be reported in this Form)*

Completion Instructions

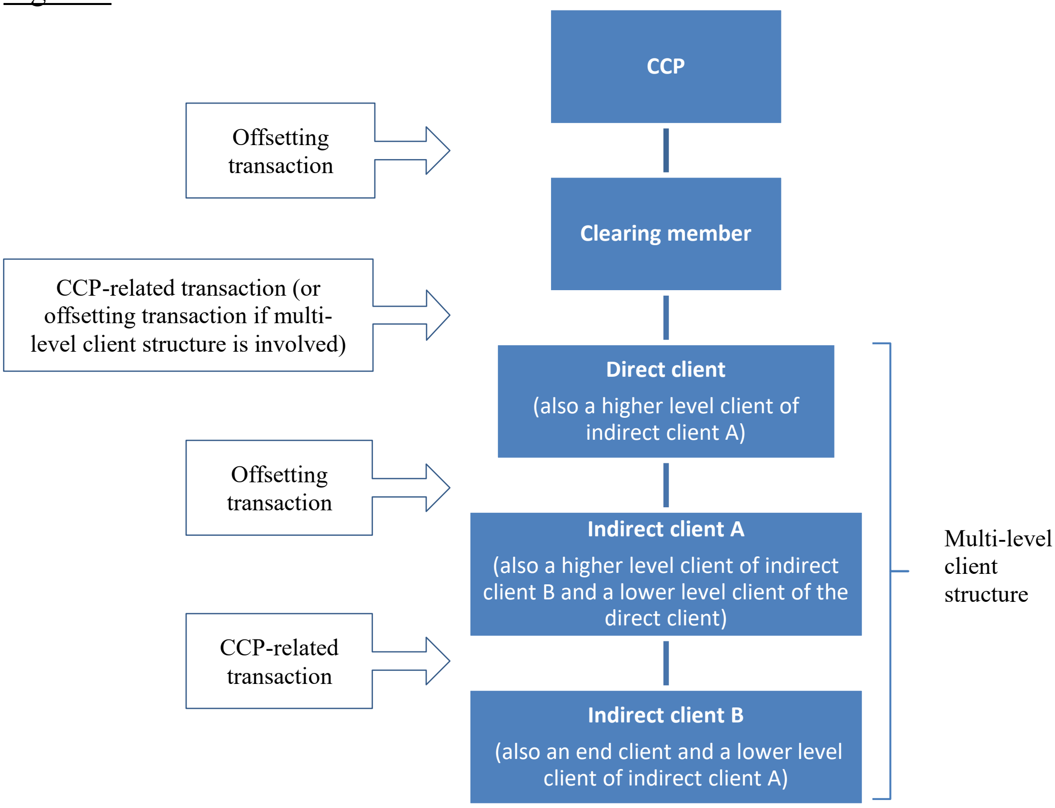
Return of Capital Adequacy Ratio
Part IIIe – Risk-weighted Amount for Exposures
to Central Counterparties
Form MA(BS)3(IIIe)

Introduction

1. Form MA(BS)3(IIIe) of Part III should be completed by each authorized institution (AI) incorporated in Hong Kong regardless of the approach adopted by the AI for calculating its ***credit risk*** for ***non-securitization exposures***.

2. This Form captures credit exposures to ***central counterparties*** (CCPs) calculated under Division 4 of Part 6A of the Banking (Capital) Rules (BCR). This Form and its completion instructions should be read in conjunction with the BCR and the relevant supervisory policy/guidance related to the capital adequacy framework. Figure 1[1] should be referred to when reading instructions related to ***multi-level client structure***.

Figure 1



[1] The structure shown in Figure 1 is only a hypothetical case for ease of cross-referencing and is not meant to represent any typical or existing indirect clearing structure.

3. This Form is divided into two divisions:

(a) Division A is for reporting the reporting AI's credit exposures to CCPs arising from ***default fund contributions***; and

(b) Division B is for reporting the reporting AI's credit exposures to CCPs set out in paragraph 4 below by reference to the role played by the AI in respect of the centrally cleared transactions concerned.

4. **Exposures covered by Division B of this Form**

(a) Reporting AI as ***clearing member*** of a CCP

(i) The AI's ***default risk exposures*** to the CCP in respect of ***derivative contracts*** and ***securities financing transactions*** (SFTs) entered into with the CCP for the AI's own purposes.

(ii) The AI's default risk exposures to the CCP in respect of ***offsetting transactions*** entered into with the CCP in the capacity of a ***clearing intermediary*** between the CCP and the AI's ***direct clients*** if the AI is obliged to reimburse the direct clients for any loss suffered by them due to changes in the value of their transactions in the event that the CCP defaults.

(iii) The AI's default risk exposures to the CCP arising from guarantees provided by the AI to its direct clients for any loss due to changes in the value of the direct clients' transactions in the event that the CCP defaults.

(b) Reporting AI as direct client of a clearing member of a CCP

(i) Exposures listed below if they are eligible for being risk-weighted in a manner as if they were default risk exposures to ***qualifying CCPs*** (QCCPs) under section 226ZA(3) or (4) or section 226ZB(2) or (3) of the BCR—

(A) the AI's default risk exposures in respect of ***CCP-related transactions*** entered into with the clearing member in the capacity of an ***end client***;

(B) the AI's default risk exposures in respect of offsetting transactions entered into with the clearing member in the capacity of a clearing intermediary within a multi-level client structure; and

(C) the AI's default risk exposures in respect of transactions entered into with the CCP under which the AI's performance is guaranteed by the clearing member.

(c) Reporting AI as ***indirect client*** and clearing intermediary within a multi-level client structure (e.g. indirect client A in Fig. 1)

(i) The AI's default risk exposures in respect of offsetting transactions entered into with a ***higher level client*** within the structure (e.g. the direct client in Fig. 1) if such exposures are eligible for being risk-weighted in a manner as if they were default risk exposures to QCCPs under section 226ZBA(5)(a) or (b) of the BCR.

(d) Reporting AI as <u>indirect client and end client</u> (e.g. indirect client B in Fig. 1) within a multi-level client structure

(i) The AI's default risk exposures in respect of CCP-related transactions entered into with a higher level client within the structure (e.g. indirect client A in Fig. 1) if such exposures are eligible for being risk-weighted in a manner as if they were default risk exposures to QCCPs under section 226ZBA(5)(a) or (b) of the BCR.

(e) Regardless of the role played by the reporting AI, its credit exposures to a CCP arising from any ***unsegregated collateral*** posted by the AI and held by the CCP where <u>neither</u> of the following is true—

(i) the collateral is included as part of the AI's default risk exposures to the CCP under section 226V(2)(a) of the BCR;

(ii) the collateral is included as part of the AI's default risk exposures to the CCP under Division 1A, 2, 2A or 2B of Part 6A of the BCR.

5. **Exposures not covered by this Form**

This Form <u>does not</u> cover the following exposures which should be risk-weighted in accordance with Part 4, 5 or 6 of the BCR and reported in Form MA(BS)3(IIIa), (IIIb) or (IIIc), as the case requires—

(a) credit exposures arising from delayed or failed settlement of—

(i) cash transactions in securities (other than ***repo-style transactions***);

(ii) cash transactions in foreign exchange or commodities; and

(iii) cash-settled derivative contracts;

(b) if the reporting AI is a <u>clearing member</u> of a CCP, its default risk exposures in respect of—

(i) offsetting transactions and CCP-related transactions entered into with its direct clients; and

(ii) guarantees provided by the AI to the CCP on the performance of its direct clients;

(c) if the reporting AI is a <u>direct client</u> of a clearing member of a CCP (regardless of whether the clearing member acts as a clearing intermediary or guarantees the AI's transactions with the CCP)—

(i) the AI's exposures to the clearing member mentioned in paragraph 4(b)(i)(A), (B) and (C) above if they are not eligible for being risk-weighted in a manner as if they were default risk exposures to QCCPs under sections 226ZA(3) or (4) or section 226ZB(2) or (3) of the BCR; and

(ii) the AI's default risk exposures in respect of offsetting transactions or CCP-related transactions entered into with a ***lower level client*** within a multi-level client structure (e.g. indirect client A in Fig. 1);

(d) if the reporting AI is an indirect client and a clearing intermediary within a multi-level client structure (e.g. indirect client A in Fig. 1)—

(i) the AI's exposures mentioned in paragraph 4(c)(i) above if they are not eligible for being risk-weighted in a manner as if they were default risk exposures to QCCPs under section 226ZBA(5)(a) or (b) of the BCR; and

(ii) the AI's default risk exposures in respect of offsetting transactions or CCP-related transactions entered into with a lower level client within the structure (e.g. indirect client B in Fig. 1);

(e) if the reporting AI is an indirect client and end client within a multi-level client structure (e.g. indirect client B in Fig. 1)—

(i) the AI's exposures mentioned in paragraph 4(d)(i) above if they are not eligible for being risk-weighted in a manner as if they were default risk exposures to QCCPs under section 226ZBA(5)(a) or (b) of the BCR;

(f) if—

(i) the reporting AI has posted unsegregated collateral with a CCP, a clearing member or a higher level client;

(ii) the collateral is held by a person other than the CCP; and

(iii) the collateral is not included as part of the AI's default risk exposures to the CCP, clearing member or higher level client under section 226V(2)(a) and Division 1A, 2, 2A or 2B of Part 6A of the BCR,

the credit exposures to that person in respect of the unsegregated collateral.

6. The transactions mentioned in paragraph 5(b), (c), (d) and (e) above are also subject to ***CVA capital charge***. Reporting AIs should calculate the CVA capital charge for these transactions in accordance with Division 3 of Part 6A of the BCR and report the amount in Form MA(BS)3(IIIf).

Section A: Definitions and General Instructions

7. If a CCP is no longer qualified as a QCCP, a reporting AI may, unless otherwise instructed by the Monetary Authority, within 3 months from the date the CCP

lost its QCCP status, continue to calculate the risk-weighted amounts of its default fund contribution and default risk exposures to the CCP as if the CCP were a QCCP. When the 3-month period expires, the AI should calculate the risk-weighted amounts of its exposures to the CCP in accordance with the requirements applicable to a ***non-qualifying CCP*** (non-QCCP).

8. In Division B of this Form—

(a) "Principal Amount"—

(i) in the case of derivative contracts, means the nominal ***notional amounts*** of the contracts, which should not be confused with any effective notional amount or adjusted notional calculated for the contracts under Part 6A of the BCR. The amount reported should be the gross sum of the nominal notional amounts of the contracts (which is the sum of the nominal notional amounts of the contracts, without the nominal notional amounts of contracts with positive replacement costs being reduced by the nominal notional amounts of contracts with negative or zero replacement costs, regardless of whether the contracts are subject to ***recognized netting***);

(ii) in the case of SFTs, means the ***principal amounts*** (within the meaning of section 226MG of the BCR) of—

(A) any securities sold or lent to counterparties by the reporting AI under the SFTs;

(B) any money paid or lent to counterparties by the reporting AI under the SFTs; and

(C) any securities or money provided to counterparties as collateral by the reporting AI under the SFTs; and

(iii) in the case of unsegregated collateral posted, means the amount calculated in accordance with section 71(2), 118(2), 163(2A) or 164(2)(b) of the BCR, as the case requires.

(b) "**Non-IMM(CCR)** Default Risk Exposure", in relation to derivative contracts and SFTs for which the reporting AI does not have an ***IMM(CCR) approval*** or for which the reporting AI is permitted under section 10B(5) or (7) of the BCR not to use the ***IMM(CCR) approach***, means—

(i) the ***outstanding default risk exposure*** of the derivative contracts calculated by using the ***current exposure method*** or ***SA-CCR approach***; or

(ii) the default risk exposure of the SFTs calculated under Division 2B of Part 6A of the BCR.

(c) "**IMM(CCR)** Default Risk Exposure", in relation to derivative contracts and SFTs for which the reporting AI has an IMM(CCR) approval, means

the outstanding default risk exposure of the derivative contracts and the default risk exposure of the SFTs calculated by using the IMM(CCR) approach.

(d) "**Collateral posted** Principal Amount" means the total principal amount of the credit exposures mentioned in paragraph 4(e) above (e.g. unsegregated collateral held by a CCP for purposes other than securing the default risk exposures in respect of contracts or transactions of the AI cleared by the CCP), and does not include ***variation margins*** mentioned in paragraph 9 below.

(e) "Total Exposure After CRM" means—

(i) subject to subparagraphs (ii) and (iii)—

(A) in the case of items *1b*, *3b* and *3c*—the total of the amounts reported in columns (B2) and (B3);

(B) in the case of items *2a* to *2g*—the total of the amounts reported in columns (B2), (B3) and (B4);

(C) in the case of items *1c*, *3d* to *4f*—the amount reported in column (B4);

(ii) if any of the amounts reported in columns (B2) and (B3) is covered by ***recognized credit risk mitigation*** (CRM) that has not been taken into account in the default risk exposure calculations conducted pursuant to Part 6A of the BCR—the amounts determined in accordance with paragraphs 20 and 21 below; or

(iii) if any of the amounts reported in column (B4) is covered by recognized CRM—the amounts determined in accordance with paragraphs 20 and 21 below.

(f) "Risk-weighted Amount" means the amount calculated by multiplying the amount reported in column (B5) by the risk-weight specified in column (B6).

9. In cases where the reporting AI is a clearing member of a CCP, any variation margin held by the CCP that is due to, but not yet received by, the reporting AI should be regarded as a default risk exposure to the CCP. The amount of such variation margin should be reported in column (B1) and in either column (B2) or column (B3), as the case requires.

Section B: Reporting Arrangement for Division A (Default Fund Contribution) of Part IIIe

B.1 Default fund contributions made to QCCPs

10. Reporting AIs that are clearing members of QCCPs should report their credit exposures to the QCCPs arising from default fund contributions in item *1* as follows—

Item no. Nature of Item and Instructions

1. **Qualifying CCPs**

Column (A1) - Default fund contribution

Report in this column the total amount of funded default fund contributions made by the reporting AI to QCCPs' mutualized loss-sharing arrangements.

Column (A2) - Capital Charge

- For CCPs that fall within paragraph (a) of the definition of "qualifying CCP" in section 226V(1) of the BCR, report in this column the aggregate regulatory capital for the AI's funded default fund contributions made to the QCCPs calculated in accordance with sections 226X(4) and 226Y(3) of the BCR.
- For CCPs that fall within paragraph (b) of the definition of "qualifying CCP" in section 226V(1) of the BCR—
  - if the capital charge for the funded default fund contribution made to a QCCP is calculated by using Formula 23K in the ***pre-amended Rules*** (as defined in Schedule 16 to the BCR), report in this column the capital charge so calculated;
  - if the capital charge for the funded default fund contribution made to a QCCP is calculated by applying a risk-weight of 1250% in accordance with section 226X(4) and (6) of the pre-amended Rules, report in this column the adjusted capital charge calculated by the following formula—

$$K = \frac{min\{(2\% \cdot TE + 1250\% \cdot DF); 20\% \cdot TE\} - 2\% \cdot TE}{12.5}$$

where—

K = adjusted capital charge

TE = the AI's total default risk exposure to the QCCP

DF = the AI's funded default fund contribution made to the QCCP

Column (A4) - Risk-weighted Amount

Report in this column the risk-weighted amount of the AI's funded default fund contributions made to QCCPs calculated by multiplying the amount reported in column (A2) by 12.5.

B.2 Default fund contributions made to non-QCCPs

11. Reporting AIs that are clearing members of non-QCCPs should report their credit exposures to the non-QCCPs arising from default fund contributions in item *2* as follows—

Item no. Nature of Item and Instructions

2. **Non-qualifying CCPs**

Column (A1) - Default fund contribution

Report in this column the total amount of funded default fund contributions made by the reporting AI, and the unfunded default fund contributions that the reporting AI is liable to pay, to non-QCCPs' mutualized loss-sharing arrangements.

Column (A4) - Risk-weighted Amount

Report in this column the risk-weighted amount of the AI's default fund contributions to non-QCCPs calculated by multiplying the amount reported in column (A1) by the risk-weight of 1250%.

Section C: Reporting Arrangement for Division B (Default Risk Exposures) of Part IIIe

C.1 Items 1a to 1c - clearing members' exposures to QCCPs

12. Reporting AIs that are clearing members of QCCPs should report their credit exposures to the QCCPs (i.e. default risk exposures and exposures arising from unsegregated collateral posted) in item *1* as follows—

Item no. Nature of Item and Instructions

1. **Qualifying CCPs**

1a. **Risk-weight 0%**

This item is for reporting credit exposures to QCCPs that are covered by recognized CRM of which the applicable risk-weight is 0% (see detailed reporting arrangements in paragraphs 20 and 21 below).

Item no. Nature of Item and Instructions

1b. **Risk-weight 2%**

Column (B1) "**Derivative Contracts and SFTs** Principal Amount"

Report in this column—

- the total principal amount of the derivative contracts and SFTs with QCCPs in respect of the default risk exposures mentioned in paragraph 4(a) above; and
- the amount of variation margin mentioned in paragraph 9, if any.

Column (B2) "**Non-IMM(CCR)** Default Risk Exposure"

Report in this column—

- default risk exposures or outstanding default risk exposures, as the case may be, to QCCPs calculated by using the current exposure method, the SA-CCR approach or the methods set out in Division 2B of Part 6A of the BCR, including those in respect of guarantees mentioned in paragraph 4(a)(iii) above; and
- the amount of variation margin mentioned in paragraph 9 that relates to the contracts or transactions reported in this column, if any.

Column (B3) "**IMM(CCR)** Default Risk Exposure"

Report in this column—

- default risk exposures or outstanding default risk exposures, as the case may be, to QCCPs calculated by using the IMM(CCR) approach, including those in respect of guarantees mentioned in paragraph 4(a)(iii) above; and
- the amount of variation margin mentioned in paragraph 9 that relates to the contracts or transactions reported in this column, if any.

Column (B5) "Total Exposure After CRM"

Report in this column the amounts mentioned in paragraph 8(e) above and, if applicable, in accordance with the reporting arrangements set out in paragraphs 20 and 21 below.

Column (B7) "Risk-weighted Amount"

Report in this column the total risk-weighted amount, that is the product of the amount reported in column (B5) and the risk-weight of 2%.

Item no. Nature of Item and Instructions

1c. **Other risk-weights not specified above**

This item is for reporting the following credit exposures to QCCPs—

- credit exposures that are covered by recognized CRM of which the applicable risk-weight is neither 0% nor 2% (see detailed reporting arrangements in paragraphs 20 and 21 below); and
- credit exposures that are risk-weighted in accordance with Part 4, 5 or 6 of the BCR (i.e. collateral mentioned in paragraph 4(e) held by a QCCP).

Column (B5) should be completed in the same manner as column (B5) of item *1b*.

The AI should report the corresponding risk-weight in column (B6) and report the total risk-weighted amount (i.e. the product of the amounts reported in columns (B5) and (B6) of this item) in column (B7).

C.2 Items 2a to 2h - clearing members' exposures to non-QCCPs

13. Reporting AIs that are clearing members of non-QCCPs should report their credit exposures to the non-QCCPs (i.e. default risk exposures and exposures arising from unsegregated collateral posted) in item *2* as follow—

Item no. Nature of Item and Instructions

2. **Non-qualifying CCPs**

2a. to 2g. The credit exposures to a non-QCCP should be reported in columns (B1) to (B4) of the item for the risk-weight applicable to the non-QCCP under the ***STC approach*** as follows—

Column (B1) "**Derivative Contracts and SFTs** Principal Amount"

Report in this column—

- the total principal amount of the derivative contracts and SFTs with the non-QCCP in respect of the default risk exposures mentioned in paragraph 4(a) above; and
- the amount of variation margin mentioned in paragraph 9 held by the non-QCCP, if any.

Column (B2) "**Non-IMM(CCR)** Default Risk Exposure"

Report in this column—

- default risk exposures or outstanding default risk exposures, as the case may be, to the non-QCCP calculated by using the current exposure method, the SA-CCR approach or the methods set out

in Division 2B of Part 6A of the BCR, including those in respect of guarantees mentioned in paragraph 4(a)(iii) above; and

- the amount of variation margin mentioned in paragraph 9 held by the non-QCCP that relates to the contracts or transactions reported in this column, if any.

Column (B3) "**IMM(CCR)** Default Risk Exposure"

Report in this column—

- default risk exposures or outstanding default risk exposures, as the case may be, to the non-QCCP calculated by using the IMM(CCR) approach, including those in respect of guarantees mentioned in paragraph 4(a)(iii) above; and
- the amount of variation margin mentioned in paragraph 9 held by the non-QCCP that relates to the contracts or transactions reported in this column, if any.

Column (B4) "**Collateral posted** Principal Amount"

Report in this column the total principal amount of the AI's credit exposures to the non-QCCP that fall within paragraph 4(e) above, if any.

Column (B5) "Total Exposure After CRM"

If the credit exposures to the non-QCCP are not covered by any recognized CRM, the total exposure after CRM should be reported in the same row in which the total principal amount of the credit exposures is reported.

If the credit exposures to the non-QCCP are covered by recognized CRM, the AI should fill in this column in accordance with the reporting arrangements set out in paragraphs 20 and 21 below.

Column (B7) "Risk-weighted Amount"

For each item, report in this column the total risk-weighted amount calculated by multiplying the amount reported in column (B5) of the item by the risk-weight specified in column (B6) of the same row.

2h Other risk-weights not specified above

If the credit exposures to a non-QCCP are covered by recognized CRM and the risk-weight applicable to the recognized CRM is other than those specified in items 2a to 2g, the AI should—

- report the ***credit protection covered portion*** of the credit exposures in column (B5) of this item;
- specify the risk-weight applicable to the recognized CRM in column (B6); and

- report the product of the amounts reported in columns (B5) and (B6) in column (B7).

See detailed reporting arrangements in paragraphs 20 and 21 below.

C.3 Items 3a to 3d - clearing clients' exposures to clearing members and higher level clients in respect of QCCPs

14. Reporting AIs that are clearing clients should report in items *3a to 3c*—

(a) their default risk exposures to clearing members or higher level clients if those exposures are eligible for being risk-weighted in a manner as if they were exposures to QCCPs (see section 226ZA(3) and (4), section 226ZB(2) and (3) and section 226ZBA(5) of the BCR); and

(b) their credit exposures to QCCPs arising from unsegregated collateral mentioned in paragraph 4(e) above.

Item no.	Nature of Item and Instructions
3.	**Qualifying CCPs**
3a.	**Risk-weight of 0%**

This item is for reporting credit exposures to clearing members or higher level clients that are covered by recognized CRM of which the applicable risk-weight is 0% (see detailed reporting arrangements in paragraphs 20 and 21 below).

3b. **Risk-weight 2%**

This item captures default risk exposures that are eligible for being risk-weighted in a manner as if they were default risk exposures to QCCPs under the following sections of the BCR—

- section 226ZA(3) or section 226ZB(2) if the AI is a direct client;
- section 226ZBA(5)(a) if the AI is an indirect client within a multi-level client structure.

Column (B1) "**Derivative Contracts and SFTs** Principal Amount"

- If the AI is a direct client of a clearing member, report in this column—
  - the total principal amount of the AI's offsetting transactions and CCP-related transactions with the clearing member (see paragraph 4(b)(i)(A) and (B) above);

- the total principal amount of the AI's transactions with the QCCP concerned that are guaranteed by the clearing member (see paragraph 4(b)(i)(C) above).

- If the AI is an indirect client other than an end client (e.g. indirect client A in Fig. 1 above), report in this column the total principal amount of the AI's offsetting transactions with higher level clients (e.g. the direct client in Fig. 1) (see paragraph 4(c) above).

- If the AI is an indirect client and end client (e.g. indirect client B in Fig. 1 above), report in this column the total principal amount of the AI's CCP-related transactions with higher level clients (e.g. indirect client A in Fig. 1) (see paragraph 4(d) above).

Column (B2) "**Non-IMM(CCR)** Default Risk Exposure"

Report in this column default risk exposures or outstanding default risk exposures, as the case may be, calculated by using the current exposure method, the SA-CCR approach or the methods set out in Division 2B of Part 6A of the BCR.

Column (B3) "**IMM(CCR)** Default Risk Exposure"

Report in this column default risk exposures or outstanding default risk exposures, as the case may be, calculated by using the IMM(CCR) approach.

Column (B5) "Total Exposure After CRM"

Report in this column the amounts mentioned in paragraph 8(e) above and, if applicable, in accordance with the reporting arrangements set out in paragraphs 20 and 21 below.

Column (B7) "Risk-weighted Amount"

Report in this column the total risk-weighted amount, that is the product of the amount reported in column (B5) and the risk-weight of 2%.

3c. **Risk-weight of 4%**

Report in this item default risk exposures that are eligible for being risk-weighted in a manner as if they were default risk exposures to QCCPs under the following sections of the BCR—

- section 226ZA(4) or section 226ZB(3) if the AI is a direct client; and

- section 226ZBA(5)(b) if the AI is an indirect client in a multi-level client structure.

The detailed reporting arrangements for columns (B1) to (B7) are same as those for item *3b*, except that the risk-weight used to

calculate the risk-weighted amount reported in column (B7) is 4% instead of 2%.

3d. **Other risk-weights not specified above**

This item is for reporting the following credit exposures to QCCPs—

- credit exposures that are covered by recognized CRM of which the applicable risk-weight is other than 0%, 2% and 4% (see detailed reporting arrangements in paragraphs 20 and 21 below); and
- credit exposures that are risk-weighted in accordance with Part 4, 5 or 6 of the BCR (i.e. collateral mentioned in paragraph 4(e) held by a QCCP).

Column (B5) should be completed in the same manner as column (B5) of item *3b*.

The AI should report the corresponding risk-weight in column (B6) and report the total risk-weighted amount (i.e. the product of the amounts reported in columns (B5) and (B6) of this item) in column (B7).

C.4 Items 4a to 4g - clearing clients' exposures in respect of non-QCCPs

15. Items *4a to 4f*

(a) If a reporting AI is a clearing client and has posted unsegregated collateral mentioned in paragraph 4(e) above to a non-QCCP, the AI should report its credit exposures to the non-QCCP arising from the unsegregated collateral in column (B4) of the item for the risk-weight applicable to the non-QCCP determined under the STC approach.

16. Item *4g*

(a) If any of the amounts reported in column (B4) of items *4a to 4f* is covered by recognized CRM and the risk-weight applicable to the recognized CRM is other than those specified in items *4a to 4f*, the AI should fill in columns (B5), (B6) and (B7) of item *4g* in the same manner as item *2h*.

C.5 Items 5 and 6 - total risk-weighted amount for exposures to CCPs

17. Report in item *5* the sum of the subtotals of the risk-weighted amounts reported in Division A and Division B.

18. Report in item *6* the total risk-weighted amount of the reporting AI's exposures to CCPs after applying the cap mentioned in section 226X(10) and (11) of the BCR.

C.6 CRM Treatments

19. In paragraphs 20 and 21, "recognized CRM" refers to the following forms of recognized CRM afforded to credit exposures that fall within the scope of this Form–

(a) ***recognized guarantees*** and ***recognized credit derivative contracts***; and

(b) ***recognized collateral*** received by a reporting AI under SFTs where the default risk exposures of the SFTs are calculated in accordance with section 226MJ of the BCR.

20. A reporting AI may take into account recognized CRM only in the manner permitted under Division 4 of Part 6A of the BCR. In other words—

(a) in the case of default risk exposures to non-QCCPs, the AI, regardless of the approach adopted by it for the calculation of credit risk for non-securitization exposures, should take into account the CRM effect of recognized CRM in accordance with Part 4 of the BCR;

(b) in the case of default risk exposures to QCCPs—

(i) reporting AIs using the STC approach should take into account the CRM effect of recognized CRM in accordance with Part 4 of the BCR;

(ii) reporting AIs using the ***BSC approach*** should take into account the CRM effect of recognized CRM in accordance with Part 5 of the BCR; and

(iii) reporting AIs using the ***IRB approach*** should take into account the CRM effect of recognized guarantees and recognized credit derivative contracts in the following manner:

(A) subject to subparagraph (B) below, reporting AIs should apply Part 4 of the BCR for recognition of the CRM effect in determining the risk-weighted amounts of the default risk exposures to QCCPs;

(B) if—

(1) a default risk exposure to a QCCP is fully covered by a recognized guarantee or recognized credit derivative contract; and

(2) the AI uses the IRB approach to calculate its credit risk for exposures to the guarantor of the recognized guarantee concerned or the counterparty to the recognized credit derivative contract concerned, as the case may be,

the AI should apply Part 6 of the BCR for recognition of the CRM effect in determining the risk-weighted amount of the default risk exposure to the QCCP (i.e. by allocating the risk-weight

attributable to the ***credit protection provider*** as determined under the IRB approach to the default risk exposure to the QCCP).

21. The reporting AI should report exposures covered by recognized CRM in the following manner—

(a) First, divide the exposure concerned into two portions: the ***credit protection covered portion*** and the ***credit protection uncovered portion***;

(b) Second, report the credit protection covered portion in column (B5) and in the row for the risk-weight applicable to the credit protection provider or the recognized collateral concerned; and

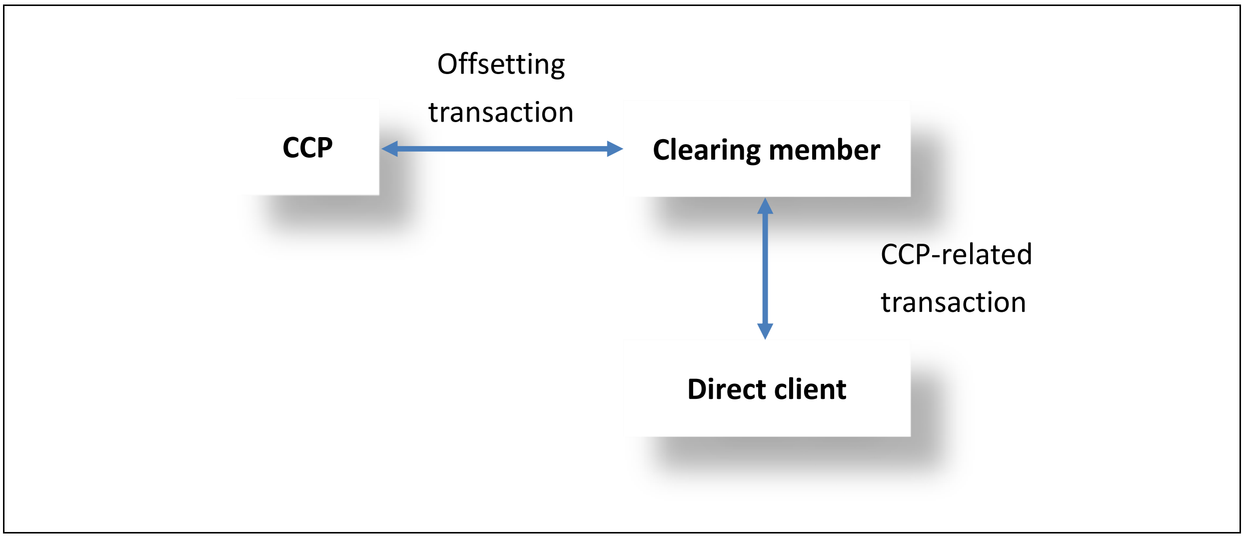
(c) Lastly, report the credit protection uncovered portion in column (B5) and in the row for the risk-weight applicable to the CCP determined in accordance with Division 4 of Part 6A of the BCR.

Hong Kong Monetary Authority
June 2021

<u>**Annex IIIe-A**</u>

Reporting arrangements for an AI's default risk exposures to clearing members or clearing clients arising from offsetting transactions or CCP-related transactions

Scenario 1: A transaction which is *<u>not</u>* cleared by means of a multi-level client structure



1.1 AI as clearing member

The AI should report–

- its default risk exposure to the direct client in respect of the clearing member-client leg (i.e. the CCP-related transaction) in <u>Part IIIa, IIIb or IIIc</u>, as the case requires; and
- its default risk exposure to the CCP in respect of the CCP-clearing member leg (i.e. the offsetting transaction) in <u>Part IIIe</u>.

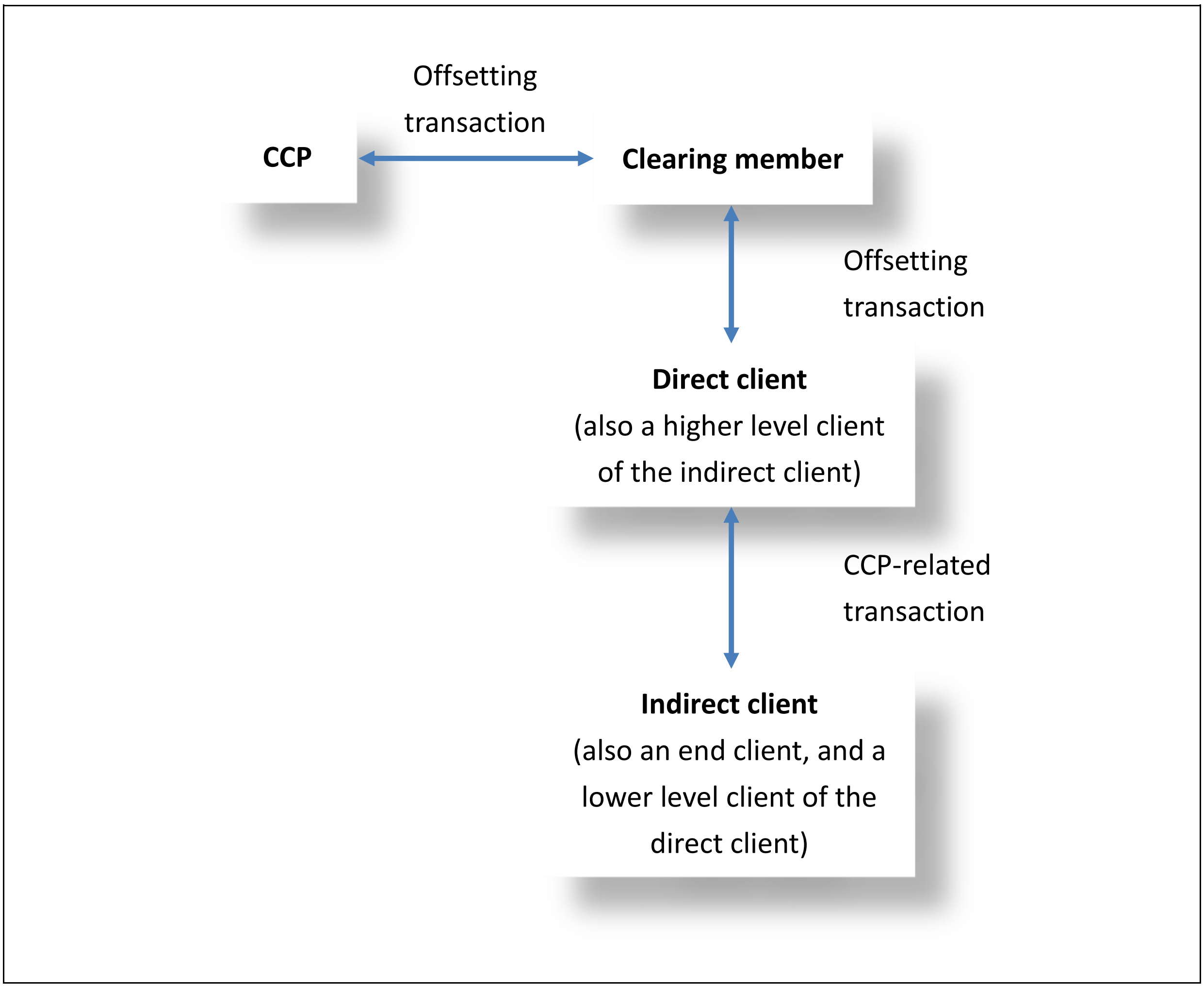
1.2 AI as direct client

The AI should report its default risk exposure to the clearing member in respect of the CCP-related transaction in <u>Part IIIa, IIIb or IIIc</u>, as the case requires.

However, the AI may treat the exposure as a default risk exposure to the CCP and report the exposure in <u>Part IIIe</u> if–

- the CCP is a qualifying CCP; and
- the conditions set out in section 226ZA(6), or section 226ZA(6) except section 226ZA(6)(a)(iii), are met.

Scenario 2: A transaction cleared by means of a multi-level client structure



2.1 AI as clearing member

The AI should report–

- its default risk exposure to the direct client in respect of the offsetting transaction with the direct client in Part IIIa, IIIb or IIIc, as the case requires; and
- its default risk exposure to the CCP in respect of the offsetting transaction with the CCP in Part IIIe.

2.2 AI as direct client

The AI should report in Part IIIa, IIIb or IIIc, as the case requires–

- its default risk exposure to the indirect client in respect of the CCP-related transaction; and
- its default risk exposure to the clearing member in respect of the offsetting

transaction with the clearing member.

However, the AI may treat its default risk exposure to the clearing member as a default risk exposure to the CCP and report the exposure in Part IIIe if–

- the CCP is a qualifying CCP; and
- the conditions set out in section 226ZA(6), or section 226ZA(6) except section 226ZA(6)(a)(iii), are met.

2.3 AI as indirect client

The AI should report its default risk exposure to the direct client in respect of the CCP-related transaction in Part IIIa, IIIb or IIIc, as the case requires.

However, the AI may treat the exposure as a default risk exposure to the CCP and report the exposure in Part IIIe if–

- the CCP is a qualifying CCP; and
- the conditions set out in section 226ZA(6), or section 226ZA(6) except section 226ZA(6)(a)(iii), are met for the arrangements among the CCP, the clearing member, the direct client and the AI (see BCR section 226ZBA(5)).

Completion Instructions

Return of Capital Adequacy Ratio
Part IIIf – Risk-weighted Amount for CVA
Form MA(BS)3(IIIf)

Introduction

1. Form MA(BS)3(IIIf) of Part III should be completed by each authorized institution (AI) incorporated in Hong Kong using the ***advanced CVA method*** or the ***standardized CVA method*** to calculate ***CVA capital charge*** under Division 3 of Part 6A of the Banking (Capital) Rules (BCR).

2. Reporting institutions (reporting AIs) should report in this Form the CVA capital charge calculated for all their counterparties (including ***clearing members*** or ***clearing clients*** in respect of transactions or contracts cleared by ***central counterparties***, where applicable) in respect of the following contracts and transactions booked in the AIs' ***banking book*** and ***trading book***:

   (a) ***derivative contracts*** (including ***long settlement transactions***); and

   (b) ***securities financing transactions*** (including long settlement transactions) if required by the Monetary Authority (MA) under section 10A(6) of the BCR.

3. Reporting AIs are not required to calculate CVA capital charge for items specified in Schedule 1A to the BCR.

4. This Form is divided into two divisions:

   (a) Reporting AIs that are eligible to use the advanced CVA method (see section 10A(3) and (4) of the BCR) should complete Division A in respect of contracts and transactions for which the CVA capital charge is calculated under the advanced CVA method.

   (b) Where a reporting AI that is eligible to use the advanced CVA method is required to use the standardized CVA method to calculate the CVA capital charge for certain transactions or counterparties (see section 10C of the BCR), the AI should report the transactions or counterparties concerned in Division B.

   (c) All other reporting AIs (i.e. those that are required to use the standardized CVA method) should complete Division B, including reporting AIs that are no longer eligible to use the advanced CVA method (see section 10D of the BCR).

5. This Form and its completion instructions should be read in conjunction with the BCR and the relevant supervisory policy/guidance related to the capital adequacy framework.

Section A: General Instructions

6. A reporting AI should not include a CVA hedge in its CVA capital charge calculation unless the hedge is an ***eligible CVA hedge*** (see section 226T of the BCR).

7. For the calculation of EAD_i^{total} under Formula 23J in section 226S(1) of the BCR, a reporting AI that concurrently uses –

   (a) the ***IRB approach*** to calculate its ***credit risk*** for ***non-securitization exposures*** to the counterparty, and

   (b) the method set out in section 226MJ of the BCR to calculate its ***default risk exposures*** in respect of securities financing transactions,

   may recognize the credit risk mitigating effect of ***recognized collateral***[1] by applying Formula 19 and in accordance with section 160(3) of the BCR, and take the resulting net credit exposure (E*) as the basis for determining the EAD_i^{total} of a ***netting set*** in accordance with other applicable provisions of section 226S of the BCR.

8. To avoid double-counting, the AI should ensure that the ***expected exposures*** (EEs) (in the case of advanced CVA method) or EAD_i^{total} (in the case of standardized CVA method) used in the CVA capital charge calculations have not been adjusted for the credit risk or CVA risk mitigation effect of any eligible CVA hedges that the AI intends to use to reduce its CVA capital charge.

9. Recognized credit derivative contracts purchased for hedging default risk exposures to counterparties should be included in the CVA capital charge calculation in the manner mentioned in section 226P(5) or 226S(7) of the BCR, as the case requires.

Section B: Reporting arrangements for Division A of Part IIIf

Advanced CVA Method

10. The reporting AI should generate the VaR and stressed VaR by using the VaR model approved by the MA for calculating the specific risk for interest rate exposures under the ***IMM approach*** and in accordance with sections 226P, 226Q and 226T of the BCR.

Item *1* – VaR

11. Item *1* refers to the VaR calculated based on EEs that are estimated using parameters calibrated to current market data.

12. Report in the column "End of quarter" the VaR as at the last trading day of the reporting quarter.

[1] See definition of "recognized collateral" in section 139(1) of the BCR.

13. Report in the column "Average VaR" the average VaR for the last 60 trading days. The VaR of each trading day should be generated as mentioned in paragraph 10 above.

14. Report in the column "Multiplication factor for VaR" the multiplication factor (m_c) determined in the same manner as in section 319(1) of the BCR. The minimum value of the multiplication factor is 3.

15. Report in the column "Risk-weighted Amount" the ***CVA risk-weighted amount*** calculated based on the following formula:

$$RWA_{CVA} = Max\left[VaR_T; VaR_{avg} \cdot m_c\right] \cdot 12.5$$

where—

- RWA_{CVA} is the CVA risk-weighted amount;
- VaR_T is the VaR as at the last trading day of the reporting quarter; and
- VaR_{avg} is the average VaR for the last 60 trading days.

Item *2* – Stressed VaR

16. Item *2* refers to the stressed VaR calculated based on EEs that are estimated using a stress calibration as set out in section 3(f)(i) of Schedule 2A of the BCR. The period of stress should be the most severe 1-year stress period within the 3-year period used for the stress calibration.

17. Report in the column "Latest available" the reporting AI's latest available stressed VaR.

18. Report in the column "Average Stressed VaR" the average stressed VaR for the last 60 trading days. The stressed VaR of each trading day should be generated as mentioned in paragraph 10 above.

19. Report in the column "Multiplication factor for Stressed VaR" the multiplication factor (m_s) determined in the same manner as in section 319(4) of the BCR. The minimum value of the multiplication factor is 3.

20. Report in the column "Risk-weighted Amount" the CVA risk-weighted amount calculated based on the following formula:

$$RWA_{CVA} = Max\left[SVaR; SVaR_{avg} \cdot m_s\right] \cdot 12.5$$

where—

- RWA_{CVA} is the CVA risk-weighted amount;
- $SVaR$ is the latest available stressed VaR; and

- $SVaR_{avg}$ is the average stressed VaR for the last 60 trading days.

Section C: Reporting arrangements for Division B of Part IIIf

Standardized CVA Method

Item *3*

21. The column "Default Risk Exposures" refers to the sum of the default risk exposures of all the reporting AI's netting sets (i.e. EAD_i^{total} in Formula 23J in section 226S of the BCR) that are subject to the CVA capital charge requirement. The amount reported in the column should be the amount before applying the discount factor as required by section 226S(1)(c) of the BCR.

22. The column "Capital Charge" refers to the CVA capital charge for a portfolio of counterparties calculated in accordance with sections 226S and 226T of the BCR.

23. When using Formula 23J—

    (a) if the reporting AI has more than one netting set with counterparty "i", the AI should multiply the default risk exposure (EAD_i) (after applying the discount factor mentioned in section 226S(1)(c)(i) of the BCR, if applicable) of each of the netting sets by the netting set's effective maturity (M_i) and then aggregate the product obtained (i.e. $M_i \cdot EAD_i$) for each netting set, and use the aggregate as the input for $M_i \cdot EAD_i^{total}$ in Formula 23J;

    (b) if there is more than one single-name eligible CVA hedge for hedging the ***CVA risk*** in respect of counterparty "i", the AI should multiply the notional amount (B_i) (after applying the discount factor mentioned in section 226S(1)(d) of the BCR) of each eligible CVA hedge by its maturity (M_i^{hedge}) and then aggregate the product obtained (i.e. $M_i^{hedge} \cdot B_i$) for each eligible CVA hedge, and use the aggregate as the input for $M_i^{hedge} \cdot B_i$ in Formula 23J;

    (c) if there is more than one index eligible CVA hedge for hedging CVA risk, the AI should multiply the notional amount (B_{ind}) (after applying the discount factor mentioned in section 226S(1)(e)(i) of the BCR) of each index eligible CVA hedge by its maturity (M_{ind}) and then aggregate the product obtained (i.e. $M_{ind} \cdot B_{ind}$) for each eligible CVA hedge, and use the aggregate as the input for $M_{ind} \cdot B_{ind}$ in Formula 23J; and

    (d) if the reporting AI falls within the description of paragraph 7(a) and (b), it may take into account the credit risk mitigating effect of collateral in the calculation of EAD_i^{total} in accordance with that paragraph.

24. Report in the column “Risk-weighted Amount” the CVA risk-weighted amount calculated based on the following formula:

$$\text{CVA risk-weighted amount} = \text{CVA capital charge} \times 12.5$$

Hong Kong Monetary Authority
June 2021

Completion Instructions

Return of Capital Adequacy Ratio
Part IV – Risk-weighted Amount for Market Risk
Form MA(BS)3(IV)

Introduction

1. Form MA(BS)3(IV) should be completed on a quarterly basis by each authorized institution incorporated in Hong Kong which is not exempted by the Monetary Authority (MA) from the calculation of ***market risk***. The MA will not grant any exemption to an institution using the ***internal ratings-based approach*** (***IRB approach***) to calculate its ***credit risk***, no matter whether it meets the de minimis exemption criteria.

2. A reporting institution which is exempted by the MA from the calculation of market risk should complete this Form once in a year for the ***position*** at the last calendar day of December for the annual assessment of its exemption status. However, the ***risk-weighted amount for market risk*** reported in this Form by an exempted institution will be for information only, and will be automatically excluded from the calculation of its capital adequacy ratios in Part I of the Return. An exempted institution should continue to calculate the credit risk for its relevant market risk positions and complete Form MA(BS)3(IIIa), MA(BS)3(IIIb), MA(BS)3(IIId), MA(BS)3(IIIe) or MA(BS)3(IIIf) of the Return, whichever is applicable, in the same manner as the credit risk for those positions is calculated and reported at other quarter-ends. A newly authorized institution is required to report its market risk positions for the first four consecutive ***calendar quarters*** before the MA can make the first assessment on whether the institution qualifies for the exemption status.

3. This Form and its completion instructions should be read in conjunction with the Banking (Capital) Rules and the relevant supervisory guidelines relating to the market risk capital framework. The reporting institution should refer to section 2 and Part 8 of the Rules for the definition of the terms in bold and italics used in this Form and its completion instructions.

Section A: Definitions and Clarification

4. A reporting institution should use the ***standardized (market risk) approach*** (***STM approach***) to calculate its market risk unless it has obtained the MA's approval to use the ***internal models approach*** (***IMM approach***). The MA may also approve a reporting institution to use the IMM approach to calculate its market risk in respect of ***general market risk*** or ***specific risk***, or both, for such ***risk categories*** or such local or overseas business of the institution specified by the MA (see paragraph 8). Any reporting institution which has been approved by the MA to use the IMM approach to calculate its market risk –

(a) is nevertheless required to adopt the STM approach to calculate the market risk capital charge for specific risk in accordance with paragraph 114 of the instructions; and

(b) cannot revert to the STM approach, except with the MA's ***prior consent***.

5. Subject to paragraph 6, a reporting institution should calculate its market risk to take into account the risk of losses arising from fluctuations in the value of:

(a) the institution's ***trading book*** positions held in ***debt securities***, ***debt-related derivative contracts***, ***interest rate derivative contracts***, ***equities*** and ***equity-related derivative contracts***; and

(b) the institution's positions held in foreign exchange (including gold), ***exchange rate-related derivative contracts***, ***commodities*** and ***commodity-related derivative contracts***.

6. A reporting institution should not include a position in the calculation of its market risk if the position is:

(a) a ***recognized credit derivative contract*** booked in the institution's trading book as a hedge to a credit exposure booked in the institution's ***banking book***;

(b) an exposure required to be deducted from any of the institution's ***Common Equity Tier 1 capital, Additional Tier 1 capital and Tier 2 capital*** in Part II of the Return of Capital Adequacy Ratio; or

(c) an ***eligible CVA hedge***

7. A reporting institution should comply with section 4A of the Rules when valuing its trading book positions, whether based on a ***marking-to-market*** or ***marking-to-model*** methodology. Among other things, this means the institution must value its positions in a prudent and reliable manner and consider making ***valuation adjustment*** to its positions as appropriate (including by taking into account the limitation of the valuation model or methodology and the data used by the institution in the valuation process, the liquidity of the positions and other relevant factors that might reasonably be expected to affect the prudence and reliability of the valuation of the positions).

8. A reporting institution should complete various divisions of this Form according to the following instructions:

(a) a reporting institution using the STM approach should complete Divisions A to E and Division G of the Form;

(b) a reporting institution using the IMM approach should complete (i) (where applicable) Division A1(b), (c) and (d); and (ii) Divisions F and G, of the Form; and

(c) a reporting institution using a combination of the IMM approach and STM approach should complete Divisions A to G of the Form.

9. The guidance for the calculation of ***market risk capital charge*** for credit derivative contracts booked in a reporting institution's trading book is set out in **<u>Annex IV-A</u>**.

10. An illustration based on a hypothetical portfolio on how various types of ***financial instruments*** are reported and how market risk capital charges are calculated under the STM approach is shown in **<u>Annex IV-B</u>**.

Section B: STM Approach to the Calculation of Market Risk

11. The completion instructions in this section apply to reporting institutions adopting the STM approach to calculate the market risk capital charge for general market risk, specific risk, or both, in respect of all or individual exposure types covered in this section. Such institutions include those approved by the MA to use the IMM approach to calculate market risk for their ***specific risk interest rate exposures*** but are required under the Rules to use the STM approach in respect of specified trading book positions as set out in sections B.1.1.2 and B.1.1.4 and, where applicable, B.1.1.3.

12. Unless otherwise specified, a reporting institution should use the ***fair value*** of its positions to calculate the market risk capital charge. Where the stated ***notional amount*** of an exposure held by a reporting institution is leveraged or enhanced by the structure of the exposure, the institution should use the effective notional amount of the exposure (being the stated notional amount of the exposure adjusted to take into account the effect of the leverage or enhancement provided by the structure of the exposure) for the purpose of calculating the market risk capital charge.

B.1 Interest Rate Exposures (Trading Book)

13. This subsection describes the framework for calculating the market risk capital charge for a reporting institution's interest rate exposures booked in the trading book. The calculation treatment of interest rate exposures relating to ***option contracts*** is separately described in section B.5.

14. A reporting institution should, for the purposes of calculating the market risk capital charge for its interest rate exposures-

    (a) calculate the market risk capital charge for specific risk for each of its trading book positions (whether long or short) in debt securities and debt-related derivative contracts-

        (i) in accordance with section 287 of the Rules if these positions arise from ***non-securitization exposure***s which do not fall within subparagraph (iii) or (iv) of section 286(a) of the Rules;

        (ii) in accordance with section 287A of the Rules if these positions arise from ***securitization exposure***s[1] which do not fall within subparagraph (iii) of section 286(a) of the Rules;

        (iii) in accordance with section 287B of the Rules if these positions fall within a ***correlation trading portfolio***; and

        (iv) in accordance with sections 287 and Division 10 of the Rules if these positions arise from credit derivative contracts which do not fall within subparagraph (ii) or (iii) of section 286(a) of the Rules;

[1] Securitization exposures include ***re-securitization exposure***s unless stated otherwise.

(b) subject to paragraph (c), calculate in accordance with section 288 of the Rules the market risk capital charge for general market risk for:

  (i) its trading book positions (whether long or short) in debt securities, debt-related derivative contracts and interest rate derivative contracts;

  (ii) the interest rate exposures arising from its trading book positions (whether long or short) in equity-related derivative contracts; and

  (iii) the interest rate exposures arising from its positions (whether long or short) in commodity-related derivative contracts; and

(c) calculate in accordance with section 288 and Division 10 of the Rules the market risk capital charge for general market risk for the interest rate exposures arising from its trading book positions (whether long or short) in credit derivative contracts.

15. A reporting institution should follow section 76, 123 or 202 of the Rules, as the case requires, for the calculation of the ***risk-weighted amount*** of exposures in respect of assets underlying ***securities financing transactions*** booked in the trading book; and section 76A, 123A or 202 of the Rules, as the case requires, for the calculation of the risk-weighted amount of default risk exposures in respect of securities financing transactions.

B.1.1 Interest rate exposures – specific risk

16. For the purposes of section B.1.1, a reference to AIs adopting the STM approach refers to reporting institutions that do not have the MA's approval to use the IMM approach to calculate the market risk capital charge for specific risk for interest rate exposures; whereas a reference to AIs adopting the IMM approach refers to reporting institutions that have the MA's approval to use the IMM approach to calculate the market risk capital charge for specific risk for interest rate exposures but are nevertheless required to adopt the STM approach to calculate the market risk capital charge for specific risk for certain types of market risk exposures in accordance with paragraph 114 of the completion instructions.

B.1.1.1 Division A.1(a) of Form MA(BS)3(IV) – Non-securitization exposures that do not fall within a correlation trading portfolio and that are not n^{th}-to-default credit derivative contracts (*Applicable to AIs adopting the STM approach*)

17. A reporting institution is required to report in Division A.1(a) of the Form the market risk capital charge for specific risk for its trading book positions in specific risk interest rate exposures that satisfy all of the following criteria: (a) they are non-securitization exposures; (b) they do not fall within a correlation trading portfolio; and (c) they are not ***n^{th}-to-default credit derivative contract*****s**. Such positions are referred to as "relevant" specific risk interest rate exposures for the purposes of Division A.1(a).

18. A reporting institution should assign each of its trading book positions (whether long or short) in relevant specific risk interest rate exposures into items 1.1 to 1.13 of Division A.1(a) of the Form based on the classes, the ***credit quality grades*** and, if applicable, the residual maturities, of such positions in accordance with **Table 1**; and report the respective grand totals for long and for short positions in item 1.14. The institution should follow the instructions set out in **Annex IV-A** for calculation and reporting of market risk capital charge for credit derivative contracts.

19. The reporting institution should then multiply the total positions (i.e. long plus short positions) for each column reported in item 1.14 by the appropriate ***market risk capital charge factors*** for specific risk specified in item 1.15 of Division A.1(a) of the Form. The total market risk capital charge for specific risk of each column reported in item 1.16 (except the last column) is equal to the product of item 1.14 and item 1.15 under the same column, adjusted for the effect of the maximum possible loss provision for credit derivative contracts that the institution may adopt in accordance with paragraph 20. The grand total of market risk capital charge for specific risk reported in the last column of item 1.16 is equal to the sum of the market risk capital charge for specific risk of each of the other columns.

Table 1: Market risk capital charge factors for specific risk

Class	**Credit quality grade**	**Market risk capital charge factor for specific risk**
Sovereign	1	0%
	2 or 3	0.25% (residual maturity of not more than 6 months)
		1.00% (residual maturity of more than 6 months but not more than 24 months)
		1.60% (residual maturity of more than 24 months)
	4 or 5	8.00%
	6	12.00%
	Unrated	8.00%
Qualifying		0.25% (residual maturity of not more than 6 months)
		1.00% (residual maturity of more than 6 months but not more than 24 months)
		1.60% (residual maturity of more than 24 months)
Non-qualifying	4	8.00%
	5	12.00%
	Unrated	8.00%

20. The market risk capital charge for specific risk for a reporting institution's positions in a credit derivative contract (other than an n^{th}-to-default credit derivative contract) may be capped at the maximum possible loss arising from the contract, which should be calculated for each individual position as:

(a) where the institution is a protection buyer, the change in the value of the contract in the event that all the ***reference obligations*** specified in the contract were to become immediately default risk-free;

(b) where the institution is a protection seller, the change in the value of the contract in the event that all the reference obligations specified in the contract were to default immediately with zero recoveries.

21. A reporting institution should not offset between positions in the relevant specific risk interest rate exposures except for:

(a) long and short positions in identical issues (including positions in ***derivative contracts***); and

(b) credit derivative contracts as set out in paragraphs 10 to 13 of **Annex IV-A**.

22. For the purposes of paragraph 19, if:

(a) the issuer of any debt securities or, in the case of debt-related derivative contracts, the issuer of any underlying debt securities, has an ***ECAI issuer rating***; or

(b) any debt securities or, in the case of debt-related derivative contracts, any underlying debt securities, have an ***ECAI issue specific rating***,

a reporting institution should, subject to paragraphs 23 to 26, map the ECAI issuer rating or the ECAI issue specific rating, as the case may be, to a scale of credit quality grades in accordance with the tables set out in Annex IIIb-A of the completion instructions for Part IIIb of the Return of Capital Adequacy Ratio.

23. Subject to paragraph 26, in the case of debt securities issued by a sovereign or, in the case of debt-related derivative contracts where the underlying debt securities are issued by a sovereign, a reporting institution should determine the credit quality grade by reference to the ECAI issuer rating of that sovereign. In this context, "***sovereign***" includes a ***sovereign foreign public sector entity***.

24. Subject to paragraph 26, the credit quality grade of debt securities issued by a ***public sector entity*** or, in the case of debt-related derivative contracts where the underlying debt securities are issued by a public sector entity, is determined by reference to the ECAI issuer rating of the sovereign of the jurisdiction in which the public sector entity concerned is incorporated.

25. Subject to paragraph 26, in the case of other non-sovereign debt securities or non-sovereign debt-related derivative contracts, a reporting institution should determine the credit quality grade by reference to, in the case of debt securities, the ECAI issue

specific rating of the debt securities or, in the case of debt-related derivative contracts, the ECAI issue specific rating of the underlying debt securities.

26. The institution should treat as unrated:

(a) the issuer of any debt securities or, in the case of debt-related derivative contracts, the issuer of any underlying debt securities, referred to in paragraph 23, which does not have an ECAI issuer rating;

(b) any debt securities or, in the case of debt-related derivative contracts, any underlying debt securities, referred to in paragraph 24, which do not have an ECAI issue specific rating; or the sovereign of the jurisdiction in which the public sector entity concerned is incorporated does not have an ECAI issuer rating; and

(c) any debt securities or, in the case of debt-related derivative contracts, any underlying debt securities, referred to in paragraph 25, which do not have an ECAI issue specific rating.

27. A reporting institution may only assign a market risk capital charge factor of 0% to:

(a) debt securities issued by a sovereign with a credit quality grade of 2 or 3 as determined under paragraph 23; or

(b) debt-related derivative contracts in respect of which the underlying debt securities are issued by a sovereign with a credit quality grade of 2 or 3 as determined under paragraph 23,

if those debt securities or, in the case of those debt-related derivative contracts, those underlying debt securities, as the case may be, are denominated in the domestic currency of that sovereign and funded by the institution in that currency.

28. A reporting institution may only include in the qualifying class under items 1.6 to 1.10 of Division A.1(a) of the Form:

(a) debt securities issued by multilateral development banks and debt-related derivative contracts where the underlying debt securities are issued by multilateral development banks;

(b) debt securities issued by public sector entities and debt-related derivative contracts where the underlying debt securities are issued by public sector entities if:

(i) subject to paragraph 26(b), the debt securities or the underlying securities, as the case may be, are assigned a credit quality grade of 2 or 3 as determined under sub-paragraph (ii) below;

(ii) the credit quality grade referred to in sub-paragraph (i) above is determined as one grade below that assigned to the sovereign (which is determined in accordance with paragraphs 23 and 26(a)) of the

jurisdiction in which that public sector entity is incorporated[2] or, if there is no such lower credit quality grade, the credit quality grade applicable to that sovereign[3];

(c) debt securities, not falling within paragraph (a) or (b), which are rated ***investment grade*** and debt-related derivative contracts where the underlying debt securities, not falling within paragraph (a) or (b), which are rated investment grade; and

(d) if the institution uses the IRB approach to calculate its credit risk, unrated debt securities, and debt-related derivative contracts if the underlying debt securities are unrated, where:

(i) the debt securities, or the underlying debt securities, as the case may be, are assessed as equivalent to investment grade under the institution's ***rating system*** on the basis that the debt securities, or the underlying debt securities, as the case may be, have a ***PD*** assigned by the institution's rating system of not more than the PD implied by the long run average PD (being a period which captures a reasonable mix of high-default and low-default years of an economic cycle) of a debt security rated investment grade; and

(ii) the issuer of the debt securities, or the issuer of the underlying debt securities, as the case may be, has any debt securities or equities listed on a ***recognized stock exchange*** or is subject to supervisory arrangements regarding the maintenance of adequate capital to support its business activities comparable to those prescribed for authorized institutions under the Banking Ordinance and the Rules.

29. A reporting institution should include in the non-qualifying class under items 1.11 to 1.13 of Division A.1(a) of the Form any non-sovereign debt securities or non-sovereign debt-related derivative contracts which are not included in the qualifying class under paragraph 28.

30. If debt securities issued by public sector entities or debt-related derivative contracts where the underlying debt securities are issued by public sector entities are assigned a credit quality grade of 6 under paragraph 28(b)(ii), such securities or contracts, as the case may be, should be subject to the same market risk capital charge factor as that assigned to the "non-qualifying" positions that are assigned a credit quality grade of 5 (i.e. 12.00%) as set out in column 3 of the second last row of **Table 1**.

31. If:

[2] This means if the sovereign has a credit quality grade of 1, a public sector entity under that sovereign will be assigned a credit quality grade of 2 and so on.

[3] This means if the sovereign has a credit quality grade of 6 (the lowest grade), a public sector entity under that sovereign will also be assigned a credit quality grade of 6.

(a) the issuer of any debt securities or, in the case of any debt-related derivative contracts, the issuer of any underlying debt securities, has more than one ECAI issuer rating assigned to the issuer; or

(b) any debt securities or, in the case of any debt-related derivative contracts, any underlying debt securities, have more than one ECAI issue specific rating assigned to them,

a reporting institution should apply the principles set out in section 69(2) of the Rules to the ***ECAI ratings*** concerned to ascertain which one of them should be used.

32. If the MA is satisfied that a reporting institution's market risk capital charge for specific risk is underestimated for any non-qualifying debt securities or debt-related derivative contracts which have a high yield to redemption relative to any debt securities issued by a sovereign or any debt-related derivative contracts where the underlying debt securities are issued by a sovereign, the MA may:

(a) require the institution to apply a higher market risk capital charge factor for specific risk to such non-qualifying debt securities or debt-related derivative contracts, as the case may be;

(b) prohibit offsetting, for the purposes of calculating the institution's market risk capital charge for general market risk between such non-qualifying debt securities or debt-related derivative contracts and any other debt securities or debt-related derivative contracts.

The market risk capital charge factor for specific risk specified by the MA for such non-qualifying debt securities or debt-related derivative contracts should be reported under the column "To be specified (%)" of Division A.1(a) of the Form.

33. Interest rate derivative contracts are not subject to a market risk capital charge for specific risk.

B.1.1.2 Division A.1(b) of Form MA(BS)3(IV) - Securitization exposures that do not fall within a correlation trading portfolio (*Applicable to AIs adopting the STM or IMM approach*)

34. A reporting institution is required to report in Division A.1(b) of the Form the market risk capital charge for specific risk for its trading book positions (whether long or short) in securitization exposures that do not fall within a correlation trading portfolio. Such positions are referred to as "relevant" specific risk interest rate exposures for the purposes of Division A.1(b).

35. According to the Basel Committee's revised securitisation framework for the banking book[4], which is implemented in Hong Kong with effect from 1 January 2018, securitisation exposures held in the trading book should be subject to the revised

[4] See the document entitled *Revisions to the securitisation framework* issued in December 2014 (revised in July 2016) by the Basel Committee.

framework for market risk (i.e. "Minimum capital requirements for market risk") issued by the Basel Committee in January 2016. However, the revised market risk framework has yet to be implemented in Hong Kong. To bridge the gap in implementation of the two frameworks, the basis for calculating the market risk for securitization exposures held in the trading book of an AI will remain unchanged during the interim period (see section 287A of the Rules). The HKMA expects that AIs will not abuse this transitional treatment (e.g. by switching securitization exposures between their regulatory banking book and trading book for the purposes of ***regulatory capital arbitrage***).

36. The treatment for securitization exposures held in the trading book aligns with that for securitization exposures held in the banking book in the ***pre-amended Rules***, subject to necessary modifications. Reporting institutions should therefore apply the completion instructions of Form MA(BS)3(IIId) as in force immediately before 1 January 2018, i.e. the set of completion instructions that was effective as at end-March 2016 ("pre-amend CI of Form MA(BS)3(IIId)")[5] in completing Division A.1(b) of this Form except as specified in paragraphs 37 to 42 below. In case of doubt, please consult the institutions' usual supervisory contact.

37. A reporting institution should apply the pre-amend CI of Form MA(BS)3(IIId) in relation to Division A.1(b) of Form MA(BS)3(IV) as if –

    (a) a reference in the pre-amend CI of Form MA(BS)3(IIId) to Table 1, 2, 3 or 4 were a reference to Table 28A, 28B, 28C or 28D in **Annex IV-D** respectively;

    (b) a reference in the pre-amend CI of Form MA(BS)3(IIId) to Annex IIId-C or Table A, B, C or D therein were a reference to **Annex IV-D** or Table 28E, 28F, 28G or 28H therein respectively; and

    (c) a reference in the pre-amend CI of Form MA(BS)3(IIId) to risk-weight were a reference to market risk capital charge factor.

38. As an overview, a reporting institution should report in Division A.1(b) of the Form its trading book positions (whether long or short) in the relevant specific risk interest rate exposures as follows:

    (a) Positions in ***rated*** securitization exposures and in other securitization exposures (e.g. ***investors' interest***) that are not subject to capital deduction are reported in Section A1 (if the securitization exposures concerned are subject to the ***STC(S) approach***) or A2 (if the securitization exposures concerned are subject to the ***IRB(S) approach***), based on the nature of the securitization exposures, credit quality grades, and whether the institution has incurred the positions in those exposures as an investing institution or originating institution;

    (b) For positions in unrated securitization exposures (which, for the purposes of section B.1.1.2, refer to securitization exposures that are not rated or treated as if

[5] Accessible at http://www.hkma.gov.hk/eng/key-functions/banking-stability/banking-policy-and-supervision/regulatory-framework/3.shtml.

not rated for regulatory capital purposes) that are not subject to capital deduction, report them in item 1.3 in section A if they are subject to the STC(S) approach; or in item 2.6 in section A if they are subject to the IRB(S) approach and to which the ***supervisory formula method*** or the method specified in section 277(3) of the pre-amended Rules apply;

(c) Positions in securitization exposures (whether rated or unrated) that are subject to capital deduction should be reported in Section B; and

(d) The institution should not offset between trading book positions in securitization exposures except as provided for in section 287(2)(a) of the Rules. The credit risk mitigation rules in the banking book do not apply in the trading book. AIs must not therefore apply the credit risk mitigation framework under the banking book securitization framework to determine their securitization positions subject to market risk capital charges. (While the trading book regime allows the offsetting of long and short positions in identical issues, the banking book regime subjects long positions in securitization exposures held in AIs' banking books to credit risk capital charges and any permissible relief from identical short positions can only come from the application of strict credit risk mitigation provisions.)

39. Subject to paragraphs 40 and 41 below, for the purposes of calculating the market risk capital charge for specific risk for its trading book positions (whether long or short) in the relevant specific risk interest rate exposures that are not subject to deduction from its ***Common Equity Tier 1 capital, Additional Tier 1 capital and Tier 2 capital***, a reporting institution should -

(a) first calculate a preliminary market risk capital charge for specific risk for each of the individual positions reported in Section A -

(i) subject to item (iii) below, for a position in rated securitization exposures reported in column (3), (4), (5) or (6) of item 1.1, 1.2, 2.1, 2.2, 2.3, 2.4 or 2.5 of Section A, by multiplying the position by the applicable market risk capital charge factor set out in the relevant table in **Annex IV-D** and recapped in column (7) or (8) in Section A;

(ii) subject to item (iii) below, for a position in securitization exposures reported in column (3), (4), (5) or (6) of item 1.3 or 2.6 of Section A, by multiplying the position by the applicable market risk capital charge factor as determined by applying the relevant pre-amend CI of Form MA(BS)3(IIId), bearing in mind that the market risk capital charge factor is equal to the corresponding risk-weight in that Form divided by 12.5; and

(iii) for a position in securitization exposures reported in column (3), (4), (5) or (6) under Section A, by multiplying the position by a market risk capital charge factor of 100% if it falls within any of the descriptions of exposures in sections 236(1)(a), (c), (d) and (da) and 251(1)(a), (c), (e), (ea) and (f) of the pre-amended Rules;

(b) calculate an adjusted market risk capital charge for specific risk for the individual positions reported in Section A, by capping the respective preliminary market risk capital charge for specific risk for these positions at their respective maximum possible loss amount, which is calculated for each individual position as follows:

(i) for a short position, the maximum possible loss is calculated as the change in the value of the position in the event that all the underlying exposures were to become immediately default risk-free;

(ii) for a long position, the maximum possible loss is calculated as the change in the value of the position in the event that all the underlying exposures were to default immediately with zero recoveries;

(c) report in columns (9) and (10) of items 1.1 to 2.7 of Section A respectively the adjusted market risk capital charge for specific risk for the institution's long and short trading book positions in the relevant specific risk interest rate exposures;

(d) ensure that item 1.4 of each column in Section A is equal to the sum of items 1.1(f), 1.2(f) and 1.3;

(e) ensure that the "Total" row of item 2.7 under Section A is equal to the sum of the sub-totals under row (m) of items 2.1 to 2.5 and item 2.6, with a further breakdown of positions and related market risk capital charge for specific risk for the positions in terms of (i) rated and unrated securitization (excluding re-securitization) exposures; and (ii) rated and unrated re-securitization exposures. Investors' interest, if any, should be included in item 2.7(a)(ii) or (b)(ii);

(f) for columns (9) and (10) of item 2.8 of Section A, ensure that the market risk capital charge reported is equal to the corresponding total amount of adjusted market risk capital charge reported in item 2.7 multiplied by the scaling factor of 1.06, which is applicable only to securitization exposures subject to the IRB(S) approach;

(g) for item 3 of Section A, ensure that the position columns (3) to (6) is equal to the sum of the total of items 1.4 and 2.7 of Section A; whereas the market risk capital charge columns (9) and (10) is equal to the sum of items 1.4 and 2.8 of Section A; and

(h) report in column (11) of item 3 of Section A the applicable market risk capital charge for the relevant specific risk interest rate exposures as -

(i) during the ***transitional period (securitization)*** (i.e. 1 January 2012 to 31 December 2013, both dates inclusive), the *larger* of the total adjusted market risk capital charge for specific risk for the long positions in item 3(9) or the total adjusted market risk capital charge for specific risk for the short positions in item 3(10);

(ii) after the transitional period (securitization), the *sum* of the adjusted market risk capital charge for specific risk for each of the positions (i.e. item 3(9) + item 3(10)).

The completion instructions set out in this paragraph are on the basis that the treatment under paragraph 20 is adopted by the institution. If the institution does not adopt the treatment under paragraph 20, the adjusted market risk capital charges for specific risk referred to in this paragraph will then be equal to the respective preliminary market risk capital charges for specific risk.

40. A reporting institution should, for the purposes of calculating the market risk capital charge for specific risk in respect of its unrated positions in securitization exposures subject to the IRB(S) approach, and subject to paragraphs 41 and 42 and with the MA's prior consent, use one of the following methods and apply it consistently-

(a) where the institution has obtained the MA's approval to use the IRB approach to calculate the credit risk capital charge for the ***IRB class*** or ***IRB subclass*** into which the ***underlying exposures*** of the positions are classified, the supervisory formula method as prescribed in Division 6 of Part 7 of the pre-amended Rules; or

(b) where the institution has obtained the MA's approval to use the IMM approach to calculate the ***incremental risk charge*** for the underlying exposures of such positions, the supervisory formula method as referred to in paragraph (a), but applying the estimates for PD and ***LGD*** produced by the internal model that the institution uses to calculate the incremental risk charge for calculating $\boldsymbol{K_{IRB}}$[6] under the supervisory formula method.

41. In respect of a position referred to in paragraph 40, the institution should calculate in accordance with that paragraph the market risk capital charge for specific risk, subject to the floor that such market risk capital charge should not be lower than the market risk capital charge for specific risk applicable to a position in a rated and more senior tranche.

42. A reporting institution should report all its trading book positions (whether long or short) in securitization exposures that are subject to deduction from its ***Common Equity Tier 1 capital, Additional Tier 1 capital and Tier 2 capital*** in Section B of Division A.1(b) of the Form –

(a) in respect of a position arising from a securitization exposure of the institution specified in any notice in writing given to it by the Monetary Authority under section 43(1)(f), by deducting the position from the institution's Common Equity Tier 1 capital; and

(b) in respect of other positions, by applying the pre-amend CI of Form MA(BS)3(IIId).

6 Please see section 271(a) of the pre-amended Rules for the meaning of K_{IRB}.

The figures reported in Column (c) of items 1 and 2 of Section B of Division A.1(b) should also be reported respectively in items (f)(ix) and (f)(x) of Part II(a) of Form MA(BS)3(II).

B.1.1.3 Division A.1(c) of Form MA(BS)3(IV) - Correlation trading portfolio (*Applicable to AIs adopting the STM approach or (where applicable) the IMM approach*)

43. A reporting institution that uses-

(a) the STM approach to calculate its market risk in respect of specific risk for its exposures in a correlation trading portfolio; or

(b) the IMM approach to calculate its market risk in respect of specific risk for its interest rate exposures but do not have the MA's approval to calculate the comprehensive risk charge for its exposures in a correlation trading portfolio under the IMM approach,

is required to report in Division A.1(c) of the Form the market risk capital charge for specific risk for its trading book positions (whether long or short) in a correlation trading portfolio. The qualifying criteria for including an institution's trading book positions in a correlation trading portfolio are set out in the definition of the same in section 281 of the Rules.

44. For the reporting of positions in a correlation trading portfolio and the associated market risk capital charge for specific risk in Division A.1(c) of the Form, a reporting institution should -

(a) apply section 287A of the Rules in respect of positions (whether long or short) in securitization exposures that fall within paragraph (a) of the definition of correlation trading portfolio in section 281 of the Rules, and adhere to section B.1.1.2 of the completion instructions (as a reminder, the market risk capital charge for specific risk for positions in securitization exposures that are subject to the IRB(S) approach attract a scaling factor of 1.06 – see paragraph 39(f));

(b) apply section 287 and Division 10 of the Rules in respect of positions (whether long or short) in n^{th}-to-default credit derivative contracts that fall within paragraph (a) of the definition of correlation trading portfolio in section 281 of the Rules, and adhere to section B.1.1.4 of the completion instructions; and

(c) apply section 287 of the Rules in respect of positions (whether long or short) that fall within paragraph (b) of the definition of correlation trading portfolio in section 281 of the Rules, and adhere to section B.1.1.1 of the completion instructions.

45. A reporting institution should report its total long positions and total short positions in its correlation trading portfolio in columns (1) and (2) respectively, and the associated aggregate market risk capital charge for specific risk for those long positions and that

for those short positions in columns (3) and (4) respectively, of Division A.1(c) of the Form.

46. A reporting institution should not offset positions or the market risk capital charge for specific risk for its positions in a correlation trading portfolio except as specified in the applicable completion instructions set out in section B.1.1.1, B.1.1.2 or B.1.1.4, as the case may be.

47. The higher of the total market risk capital charge for specific risk that applies to the long positions or the total market risk capital charge for specific risk that applies to the short positions, as calculated in accordance with paragraphs 44 to 46 above, should be reported in column (5) of Division A.1(c) of the Form.

48. Below is an illustrative example for applying paragraphs 44 to 47 in respect of a correlation trading portfolio -

(a) An AI is assumed to hold various positions in a correlation trading portfolio as shown in column 1 of **Table 1A**, and it is further assumed that none of these positions is eligible to be offset for the purposes of calculation of market risk capital charge for specific risk; and

(b) The applicable provisions in section 287B for calculating the associated market risk capital charge for specific risk for the positions in the correlation trading portfolio and the assumed resultant capital charges are shown in column 2 (for long positions) or column 3 (for short positions) of the table, while the market risk capital charge for specific risk for the correlation trading portfolio is stated in the last row of the table.

Table 1A: Illustrative example on calculation of market risk capital charge for specific risk for positions in a correlation trading portfolio ("CTP")

Positions in the CTP	Market risk capital charge for specific risk - long positions	Market risk capital charge for specific risk - short positions
1. Positions in securitization exposures (apply paragraph (a) of the definition of CTP)	\$20 (apply section 287B(1)(a) of the Rules)	\$10 (apply section 287B(1)(a) of the Rules)
2. Positions in n^{th}-to-default credit derivative contracts (apply paragraph (a) of the definition of CTP)	\$40 (apply section 287B(1)(b) of the Rules)	\$30 (apply section 287B(1)(b) of the Rules)
3. Positions for hedging the positions in items 1 and 2 (apply paragraph (b) of the definition of CTP)	\$30 (apply section 287B(1)(c) of the Rules)	\$20 (apply section 287B(1)(c) of the Rules)
Total for the positions above	\$90	\$60
Market risk capital charge for specific risk for the CTP	\$90 (apply section 287B(2) of the Rules)	

B.1.1.4 Division A.1(d) of Form MA(BS)3(IV) – Non-securitization exposures that are n^{th}-to-default credit derivative contracts (excluding those that fall within a correlation trading portfolio) (*Applicable to AIs adopting the STM or IMM approach*)

49. A reporting institution is required to report in Division A.1(d) of the Form the market risk capital charge for specific risk for its trading book positions (whether long or short) in non-securitization exposures that are n^{th}-to-default credit derivative contracts (excluding those that fall within a correlation trading portfolio). Such positions are referred to as "relevant" specific risk interest rate exposures for the purposes of Division A.1(d).

50. Subject to paragraphs 51 and 52, a reporting institution should follow the completion instructions under section B.1.1.1 for reporting items 1.1 to 1.16 of Division A.1(d) of the Form, except that item 1.16 in this Division is broken down into one row for long positions and one row for short positions.

51. The reporting institution should report in item 1.17 the applicable total market risk capital charge for specific risk for its long and short positions in its relevant specific risk interest rate exposures as:

(a) during the transitional period (securitization) (i.e. 1 January 2012 to 31 December 2013, both dates inclusive), the *larger* of the total market risk capital charge for specific risk (having applied the maximum possible loss provision in paragraph 20 to individual relevant positions if this treatment is adopted) for the long positions reported in the last column of item 1.16 or the total market risk capital charge for specific risk (having applied the maximum possible loss provision in paragraph 20 to individual relevant positions if this treatment is adopted) for the short positions reported in the last column of item 1.16;

(b) after the transitional period (securitization), the *sum* of the total market risk capital charge for specific risk (having applied the maximum possible loss provision in paragraph 20 to individual relevant positions if this treatment is adopted) for each of the positions reported in the last column of item 1.16.

52. For each relevant position in an n^{th}-to-default credit derivative contract or an n^{th}-to-default ***credit-linked note***, irrespective of whether the institution is a protection buyer or a protection seller:

(a) the market risk capital charge for specific risk for a ***first-to-default credit derivative contract*** or a first-to-default credit-linked note is the lesser of-

(i) the sum of the market risk capital charge for specific risk for the individual reference obligations in the basket of reference obligations specified in the contract or note, as the case may be; or

(ii) the institution's maximum liability under the contract or the fair value of the note, as the case may be; and

(b) the market risk capital charge for specific risk for an n^{th}-to-default credit derivative contract or an n^{th}-to-default credit-linked note, where n is greater than 1, is the lesser of:

(i) the sum of the market risk capital charge for specific risk for the individual reference obligations in the basket of reference obligations specified in the contract or note, as the case may be, but disregarding the (n-1) obligation or obligations with the lowest market risk capital charge for specific risk; or

(ii) the institution's maximum liability under the contract or the fair value of the note, as the case may be.

B.1.2 Interest rate exposures - general market risk

Construction of maturity ladder

53. A reporting institution should construct a maturity ladder for each currency in which its interest rate exposures are denominated according to the time bands provided in Division A.2 of the Form.

54. The reporting institution should slot all of its long or short positions in debt securities, debt-related derivative contracts, interest rate derivative contracts and interest rate exposures arising from equity-related derivative contracts and commodity-related derivative contracts:

(a) with a coupon of not less than 3% per annum into a maturity ladder comprising the 13 time bands set out in **Table 2**; and

(b) with a coupon of less than 3% per annum into a maturity ladder comprising the 15 time bands set out in **Table 2**.

Table 2: Time bands and risk-weights

Time band	Coupon of not less than 3% per annum	Coupon of less than 3% per annum	Risk-weight
1	≤ 1 month	≤ 1 month	0.00%
2	> 1 to 3 months	> 1 to 3 months	0.20%
3	> 3 to 6 months	> 3 to 6 months	0.40%
4	> 6 to 12 months	> 6 to 12 months	0.70%
5	> 1 to 2 years	> 1.0 to 1.9 years	1.25%
6	> 2 to 3 years	> 1.9 to 2.8 years	1.75%
7	> 3 to 4 years	> 2.8 to 3.6 years	2.25%
8	> 4 to 5 years	> 3.6 to 4.3 years	2.75%
9	> 5 to 7 years	> 4.3 to 5.7 years	3.25%
10	> 7 to 10 years	> 5.7 to 7.3 years	3.75%
11	> 10 to 15 years	> 7.3 to 9.3 years	4.50%
12	> 15 to 20 years	> 9.3 to 10.6 years	5.25%
13	> 20 years	> 10.6 to 12 years	6.00%
14		> 12 to 20 years	8.00%
15		> 20 years	12.50%

55. For the purposes of paragraph 54, the reporting institution should slot fixed rate exposures into the time bands set out in **Table 2** in accordance with their respective residual maturities and slot floating rate exposures into the time bands set out in **Table 2** in accordance with their respective residual terms to the next interest fixing date.

56. The reporting institution should regard interest rate exposures arising from derivative contracts as a combination of the long and short positions in accordance with paragraphs 57 to 60 and slot such positions into the time bands set out in **Table 2**.

57. Interest rate ***futures contracts***, interest rate ***forward contracts*** and forward rate agreements are treated as a combination of the long and short positions in a zero-coupon ***specific risk-free security*** whereby:

(a) a long or short position in an interest rate futures contract or interest rate forward contract is to be regarded as:

(i) a short or long position respectively with a maturity being the remaining period up to and including the delivery date of the underlying interest rate contract; and

(ii) a long or short position respectively with a maturity being the remaining period up to and including the delivery date of the underlying interest rate contract plus the contract period of the underlying interest rate contract. For example, a long position in a June three-month interest rate futures contract taken in December is to be reported at the end of December as a long position in a zero-coupon specific risk-free security in that particular currency with a maturity of nine months and a short position in a zero-coupon specific risk-free security with a maturity of six months (see example (5) in **Annex IV-B**); or

(b) a sold or purchased forward rate agreement is to be regarded as:

(i) a short or long position respectively with a maturity being the remaining period up to and including the settlement date of the agreement; and

(ii) a long or short position respectively with a maturity being the remaining period up to and including the settlement date of the agreement plus the contract period of the agreement.

58. ***Bond*** futures contracts and bond forward contracts are treated as a combination of the long and short positions in a zero-coupon specific risk-free security and the underlying bond whereby a long or short position in a bond futures contract or bond forward contract is to be regarded as:

(a) a short or long position respectively in a zero-coupon specific risk-free security with a maturity being the remaining period up to and including the delivery date of the underlying bond; and

(b) a long or short position respectively in the underlying bond with a maturity being the remaining period up to and including the delivery date of the underlying bond plus the tenor of the underlying bond.

59. Forward foreign exchange contracts in the trading book are regarded as a long and a short position in a zero-coupon specific risk-free security of two different currencies with the same maturity as forward contracts (see example (8) in **Annex IV-B**).

60. Interest rate ***swap contracts*** under which a reporting institution receives or pays floating rate interest and pays or receives respectively fixed rate interest are to be regarded as:

(a) a short or long position respectively in a fixed rate instrument with a maturity being the remaining period up to and including the maturity date of the swap contract concerned ; and

(b) a long or short position respectively in a floating rate instrument with a maturity being the remaining period up to and including the next interest fixing date (see example (4) in **Annex IV-B**).

For swap contracts that pay or receive fixed or floating rate interest against some other reference price (e.g. an equity price), the interest rate leg should be slotted into the time bands of Division A.2 of the Form according to the residual terms to the next interest fixing date, with the equity leg being included in the equity framework set out in Division B of the Form. The separate legs of cross-currency swap contracts should be slotted in the relevant maturity ladders for the currencies concerned.

61. In calculating the market risk capital charge for general market risk, the reporting institution may exclude from the maturity ladder long and short positions in identical instruments. The institution may fully offset the ***matched positions*** in a futures contract or forward contract and the ***underlying exposure*** of the futures contract or forward contract, as the case may be, except that the position in a zero-coupon specific risk-free security should be included in the calculation of the institution's market risk capital charge for general market risk. For example, if a reporting institution has a long position in a bond and sells the bond in a futures contract or forward contract as at the reporting date, the long and short positions in the bond can be offset but a long position in a zero-coupon specific risk-free security with a maturity being the remaining period up to and including the delivery date of the underlying bond of the futures contract or forward contract should be reported based on the fair value of the bond.

62. In the case of a futures contract or forward contract comprising a range of deliverable bonds, a reporting institution may only offset positions in the contract and the underlying bond which is readily identifiable as the most profitable for the institution with a short position to deliver (i.e. the cheapest to deliver). This means that offsetting is only permitted between a short futures contract or forward contract and a long bond (i.e. not between a long futures contract or forward contract and a short bond) and the bond should be the "cheapest to deliver" bond among the range of deliverable bonds under the contract. The amount to be reported for the remaining long position of the contract, up to and including the delivery date of the contract, should be the face value of the contract divided by the ***conversion factor*** applicable to the contract and multiplied by the current market price of that bond as determined in accordance with section 4A of the Rules as if measured at fair value. For example, a short position in a futures contract on a five-year fixed rate bond with delivery three months from the reporting date is to be reported as a short position in a 5.25 year bond (i.e. a specific bond which is within the range of deliverable bonds under the futures contract) and a long position in a three-month zero-coupon specific risk-free security. The amount to be reported for both legs is the contract face value divided by the

conversion factor applicable to the contract and multiplied by the current market price of the selected deliverable bond (see example (3) in **Annex IV-B**).

63. A reporting institution may treat opposite positions in the same type of derivative contracts (including the ***delta-weighted position*** of option contracts calculated according to section B.5) as matched and may fully offset them. For this purpose, positions in the same type of derivative contracts are opposite only if:

(a) the positions relate to derivative contracts with the same underlying exposures, are of the same nominal value and denominated in the same currency;

(b) in the case of futures contracts, the offsetting positions in the underlying interest rate exposures to which the futures contracts relate are for identical exposures and mature within 7 days of each other;

(c) in the case of swap contracts and forward rate agreements, the rates (for floating rate positions) of the contracts or agreements, as the case may be, are identical and the coupons are within 15 basis points; and

(d) in the case of swap contracts, forward rate agreements and forward contracts, the next interest fixing date or, for fixed coupon positions or forward contracts, the residual maturity, corresponds within the following limits:

(i) if either of the contracts or agreements, as the case may be, to be offset has an interest fixing date or residual maturity of not more than one month, the interest fixing date or residual maturity, as the case may be, is the same for both contracts or agreements, as the case may be;

(ii) if either of the contracts or agreements, as the case may be, to be offset has an interest fixing date or residual maturity of more than one month but not more than one year, the interest fixing dates or residual maturities, as the case may be, are within 7 days of each other; and

(iii) if either of the contracts or agreements, as the case may be, to be offset has an interest fixing date or residual maturity of more than one year, the interest fixing dates or residual maturities, as the case may be, are within 30 days of each other.

For example, a bought and a sold forward rate agreement in the same currency with the same face value, settlement date and deposit maturity date may be offset against each other and excluded from reporting if the contract rates are within 15 basis points of each other. Similarly, opposite swap contracts may be offset if, say, the floating rate in both cases is six month HIBOR and the fixed rates are within 15 basis points of each other. The positions may also be offset if the reference dates (i.e. the residual term to the next interest fixing date or the residual maturity of each contract) of the opposite positions are different but within the range set out in item (d) above. Opposite bond futures contracts may be offset against each other if the deliverable bonds are of the same type and mature within 7 days of each other.

Calculation of market risk capital charge for general market risk

64. A reporting institution should calculate the market risk capital charge for general market risk by:

(a) multiplying its long and short positions in interest rate exposures in each time band within the maturity ladder by the appropriate risk-weight as set out in Division A.2 of the Form;

(b) offsetting the total risk-weighted long and short positions in each time band to produce a single net risk-weighted long or short position for each time band;

(c) applying a market risk capital charge factor of 10% on the matched position (being the lesser of the absolute values of the total risk-weighted long and short positions) of each time band, whether long or short, to arrive at a market risk capital charge for each matched position (referred to as "vertical disallowance"). For example, if the sum of the total risk-weighted long position in a time band is $100 million and the sum of the total risk-weighted short position in the same time band is $90 million, the vertical disallowance would be 10% of $90 million (i.e. $9 million). The $9 million will be included in the calculation of market risk capital charge for general market risk;

(d) subject to paragraph 65:

(i) first conducting a round of horizontal offsetting between the net risk-weighted positions for the time bands in each of the 3 zones subject to a scale of market risk capital charge factors, expressed as a percentage of the matched positions for each zone, as set out in **Table 3**;

(ii) then conducting a round of horizontal offsetting between the total net risk-weighted positions for the zones across the 3 zones (being between adjacent zones and between zone 1 and zone 3) subject to a scale of market risk capital charge factors, expressed as a percentage of the matched positions between the zones, as set out in **Table 3**,

to arrive at a market risk capital charge for each matched position (referred to as "horizontal disallowance"); and

(e) applying a market risk capital charge factor of 100% on the remaining net risk-weighted long or short position in interest rate exposures after carrying out the offsetting in accordance with items (b) and (d) above.

Table 3: Horizontal disallowance

<table>
<tr><th></th><th colspan="2">Time band</th><th colspan="3">Market risk capital charge factor</th></tr>
<tr><th>Zone</th><th>Coupon of not less than 3% per annum</th><th>Coupon of less than 3% per annum</th><th>Within the zone</th><th>Between adjacent zones</th><th>Between zones 1 and 3</th></tr>
<tr><td>Zone 1</td><td>≤ 1 month
> 1 to 3 months
> 3 to 6 months
> 6 to 12 months</td><td>≤ 1 month
> 1 to 3 months
> 3 to 6 months
> 6 to 12 months</td><td>40%</td><td rowspan="3">40%</td><td rowspan="3">100%</td></tr>
<tr><td>Zone 2</td><td>> 1 to 2 years
> 2 to 3 years
> 3 to 4 years</td><td>> 1.0 to 1.9 years
> 1.9 to 2.8 years
> 2.8 to 3.6 years</td><td>30%</td></tr>
<tr><td>Zone 3</td><td>> 4 to 5 years
> 5 to 7 years
> 7 to 10 years
> 10 to 15 years
> 15 to 20 years
> 20 years</td><td>> 3.6 to 4.3 years
> 4.3 to 5.7 years
> 5.7 to 7.3 years
> 7.3 to 9.3 years
> 9.3 to 10.6 years
> 10.6 to 12 years
> 12 to 20 years
> 20 years</td><td>30%</td></tr>
</table>

65. For the purposes of:

(a) a reporting institution conducting the first round of horizontal offsetting under paragraph 64(d)(i), the institution should:

(i) calculate the net risk-weighted long or short position of each time band after separately adding long positions to long positions and short positions to short positions;

(ii) in the case of long and short positions in the same zone, subject the matched position (being the lesser of the absolute values of the total net risk-weighted long and short positions for the zone) to a market risk capital charge factor of 40% for zone 1 and 30% for zone 2 and zone 3; and

(iii) offset the positions of time bands within the same zone to create the matched position to which the market risk capital charge factor is applied under item (ii) above and a total net risk-weighted long or short position for each zone;

(b) a reporting institution conducting the second round of horizontal offsetting under paragraph 64(d)(ii), the institution should:

(i) in the case of opposite positions between adjacent zones (being one zone having a total net risk-weighted long position while another zone having a total net risk-weighted short position), subject the matched

position (being the lesser of the absolute values of the total net risk-weighted long position in one zone and the total net risk-weighted short position in another zone) to a market risk capital charge factor of 40%;

(ii) offset the positions between adjacent zones to create the matched position to which the market risk capital charge factor is applied under item (i) above and a total net risk-weighted long or short position;

(iii) subject to item (iv) below, in the case of opposite positions between zone 1 and zone 3, subject the matched position (being the lesser of the absolute values of the total net risk-weighted long or short position in zone 1 and the total net risk-weighted short or long position respectively in zone 3) to a market risk capital charge factor of 100%; and

(iv) in order to calculate the horizontal disallowance between zone 1 and zone 3 for item (iii) above:

(A) if the total net risk-weighted positions of zone 1 and zone 2 are netted, treat the net position as the remaining position of zone 1;

(B) if the total net risk-weighted positions of zone 2 and zone 3 are netted, treat the net position as the remaining position of zone 3.

66. A reporting institution should derive the market risk capital charge for general market risk for its portfolio of interest rate exposures by aggregating:

(a) the total market risk capital charge for vertical disallowance for all time bands calculated in accordance with paragraph 64(c);

(b) the total market risk capital charge for horizontal disallowance for individual zones and across different zones calculated in accordance with paragraph 64(d); and

(c) the market risk capital charge for the remaining net risk-weighted long or short position calculated in accordance with paragraph 64(e).

See **Annex IV-C** for a numerical illustration of the composition of the market risk capital charge for general market risk for interest rate exposures.

67. A reporting institution should calculate the market risk capital charge for general market risk for each currency separately, convert each amount so calculated into HKD at current market rates and then aggregate the amounts so calculated. In other words, a reporting institution should use separate forms to report the positions in HKD for different currencies in Division A.2 of the Form.

Other alternative methods

68. A reporting institution should use the above methodology to calculate its positions to be included in the maturity ladder unless it has the prior consent of the MA to use a different methodology. For example, a reporting institution with a large portfolio of swap contracts may, subject to the MA's prior consent, use an alternative methodology to calculate the position of these contracts to be included in the maturity ladder. One method is to first convert the payments required by the swap contract into the present values. For this purpose, each payment should be discounted using zero-coupon yields and a single net figure for the present value of the cash flows should be entered into the appropriate time band of the maturity ladder.

69. A reporting institution should use the ***maturity method*** set out in paragraphs 53 to 67 to calculate the market risk capital charge for general market risk for its portfolio of interest rate exposures unless it has the prior consent of the MA to use a different method such as the duration method. The duration method is set out in paragraph 718(vii) of "International Convergence of Capital Measurement and Capital Standards: A Revised Framework (Comprehensive Version)" issued by the Basel Committee on Banking Supervision in June 2006. A reporting institution wishing to use this method should possess the necessary capability to calculate the duration and price sensitivity of each position separately.

B.2 Equity Exposures (Trading Book)

70. This subsection describes the framework for calculating the market risk capital charge for a reporting institution's equity exposures booked in the trading book. The calculation treatment of equity exposures relating to option contracts is separately described in section B.5.

71. A reporting institution should, for the purposes of calculating the market risk capital charge for its trading book positions (whether long or short) in equities and equity-related derivative contracts:

    (a) calculate the market risk capital charge for specific risk for each of those positions; and

    (b) calculate the market risk capital charge for general market risk for those positions.

72. For the purpose of paragraph 71, a reporting institution should report in Division B of the Form each of its positions in equities and equity-related derivative contracts for each exchange where the equities or, in the case of equity-related derivative contracts, the underlying equities concerned, are listed or traded (i.e. on an exchange-by-exchange basis). In other words, the positions should be reported under separate columns according to where the equities concerned are listed or traded. For overseas markets, a reporting institution should indicate the ***country*** where the exchange is located in the space provided. If an equity is listed on more than one exchange, it should be reported in the exchange of its primary listing.

73. A reporting institution should convert its equity-related derivative contracts into positions in the underlying equity by:

(a) valuing its futures contracts and forward contracts relating to an individual equity at the fair value of the underlying equity;

(b) valuing its futures contracts relating to equity indices as the current index value multiplied by the monetary value of one index point set by the futures exchange where the futures contract is traded (i.e. the "tick" value, e.g. the Hang Seng Index Future is HK$50 per point) or the fair value of the underlying basket of equities used to compile the index (see example (11) in **Annex IV-B**).

74. A reporting institution should regard each of its equity swap contracts as long and short positions such that:

(a) in the case of an equity swap contract in which the institution:

(i) is receiving an amount based on the change in value of a particular equity or equity index; and

(ii) is paying an amount based on the change in value of a different equity or equity index,

the position in item (i) above is the long position and the position in item (ii) above is the short position, of the equity swap contract; and

(b) in the case of an equity swap contract which involves a position requiring the receipt or payment of fixed or floating rate interest, the institution treats the position under the maturity method and reports in Division A.2 of the Form according to the instructions set out in section B.1.2.

75. If equities are to be received or delivered under a forward contract, the institution should treat any interest rate exposure arising out of the contract under the maturity method and report in Division A.2 of the Form according to the instructions set out in section B.1.2. A reporting institution should also treat any interest rate exposure arising out of an equity futures contract or any equity index futures contract under the maturity method and report in Division A.2 of the Form according to the instructions set out in section B.1.2.

76. A reporting institution may fully offset its matched positions in each identical equity or equity index with the same delivery month in each exchange in order to produce a single net long or short position. A futures contract in a given equity can also be offset against an opposite position in the same equity. However, in these two cases, the market risk capital charge for general market risk for any interest rate exposure arising out of such contracts should be calculated under the maturity method and reported in Division A.2 of the Form. For example, a short futures contract on an equity with delivery 3 months from the reporting date can be offset against a long position in the underlying equity. However, the interest rate exposure arising out of the equity futures contract should be reported as a long position in a three-month zero-

coupon specific risk-free security at the fair value of the equity denominated in the same currency as the equity.

77. A reporting institution should calculate the market risk capital charge for specific risk for the institution's trading book positions in equities and equity-related derivative contracts as 8% of its total gross (long plus short) position. The institution should also calculate the market risk capital charge for general market risk for the institution's trading book positions in equities and equity-related derivative contracts as 8% of its total net position in equities and equity-related derivative contracts (being the difference between the sum of the institution's long positions and the sum of the institution's short positions). The institution should not offset net long and short positions on different exchanges.

B.3 Foreign Exchange Exposures

78. This subsection describes the framework for calculating the market risk capital charge for a reporting institution's foreign exchange exposures (including gold). The calculation treatment of foreign exchange exposures relating to option contracts is separately described in section B.5.

79. A reporting institution should, for the purposes of calculating the market risk capital charge for its positions in foreign exchange (including gold) and exchange rate-related derivative contracts, determine the amount of its net open position (being the sum of the net spot position and the net forward position) in each currency and in gold. Subject to any applicable adjustments specified in paragraphs 6(b), 80 and 81, the amounts should be based on the sum of the figures reported under, where applicable, columns 5 (Hong Kong office), 7 (overseas branches) and 8 (subsidiaries) of Part I of the Return of Foreign Currency Position (Form MA(BS)6), but reported in thousand Hong Kong dollars. The institution should convert each amount into HKD at current market rates for reporting purposes. Positions arising from foreign currency option contracts should be reported for each currency, subject to the instructions set out in section B.5.

80. Where a reporting institution has reported positions in "structural assets (liabilities)" in column 6 or 10 of Part I of the Return of Foreign Currency Position (Form MA(BS)6), the reported figures should be added to those reported under, where applicable, columns 5, 7 and 8 of Part I of the same Return for the purposes of determining the amount of the institution's net open position in each currency and in gold as mentioned in paragraph 79 above.

81. Where a reporting institution has maintained ***structural position***s for regulatory capital purposes, the institution should not exclude any of such structural positions from the calculation of market risk capital charge for its foreign exchange exposures except after consultation with the MA. In this regard, "structural position" means a position in foreign exchange held by the institution with the intention of hedging any adverse effect of exchange rate movements on its capital adequacy ratio.

82. The "sum of net long/short positions" of a reporting institution is the sum of:

(a) its total net long or net short position in each foreign currency (including gold and, if applicable, the net delta-weighted position of option contracts in each such currency); and

(b) its "HKD position", which is a balancing figure to ensure that the total of all net long positions for all currencies is the same as the total of all net short positions for all currencies.

83. The "USD/HKD position" of the reporting institution is:

(a) zero if the institution's net open positions in USD and HKD are both long or both short;

(b) the smaller of the 2 positions (expressed as the absolute value) if the institution's net open positions in USD and HKD are opposite positions.

84. The "adjusted sum of net long/short positions" of the reporting institution is equal to the "sum of net long/short positions" less its "USD/HKD position".

85. The reporting institution's "total net open position" is derived by aggregating:

(a) its "adjusted sum of net long/short positions; and

(b) the institution's net position in gold (whether long or short).

86. The market risk capital charge for the reporting institution's positions in foreign exchange (including gold) is 8% of its "total net open position".

B.4 Commodity Exposures

87. This subsection describes the framework for calculating the market risk capital charge for a reporting institution's commodity exposures. The calculation treatment of commodity exposures relating to option contracts is separately described in section B.5.

88. Long and short positions in commodities should be reported in Division D of the Form by the nature of items. A reporting institution should, for the purposes of calculating the market risk capital charge for its positions in commodities and commodity-related derivative contracts, convert its gross (long plus short) position in each commodity to which those positions relate (measured in barrels, kilograms or grams or such other standard unit of measurement as is applicable to the commodity concerned) into monetary terms at ***current market price*** of the commodity.

89. A futures contract or forward contract relating to a commodity should be valued by reference to the notional amount of the standard unit of measurement of the commodity converted into monetary terms at current market price. Any interest rate exposure arising out of such commodity-related futures contract or forward contract should be dealt with under the maturity method and reported in Division A.2 of the Form according to the instructions set out in section B.1.2.

90. In the case of a commodity swap contract under which one leg of the swap contract relates to a position or series of positions referenced to a fixed price and the other leg of the swap contract relates to a position or series of positions referenced to the current market price of a reference commodity or commodities, a reporting institution should, for each payment under the swap contract, value each of the positions at the notional amount of the swap contract. The institution should also treat each such position as long if the institution is paying at a fixed price and receiving at a floating market price and short if the institution is receiving at a fixed price and paying at a floating market price. If one of the legs of the swap contract involves receiving or paying at a fixed or floating interest rate, that leg should be treated under the maturity method and reported in Division A.2 of the Form according to the instructions set out in section B.1.2.

91. A reporting institution may offset long and short positions in the same commodity when calculating its open positions. Offsetting is, however, not allowed for positions in different types of commodities.

92. A reporting institution should calculate the market risk capital charge for its commodity exposures as the sum of 15% of the institution's net position in each commodity to cover the risk of a change in the market price of the commodity and 3% of the institution's gross (long plus short) position in each commodity to cover:

(a) the risk that the relationship between the prices of similar commodities changes over time;

(b) the risk of a change in the cost of carry for forward positions and option contracts; and

(c) the risk that the forward price may change for reasons other than a change in interest rates.

B.5 Option Exposures

93. A reporting institution should, for the purposes of calculating the market risk capital charge for its option exposures to debt securities, interest rates, equities, foreign exchange (including gold) and commodities, use either the ***simplified approach*** or the ***delta-plus approach***. A reporting institution should seek the prior consent of the MA if it wishes to adopt any approach other than the simplified approach or the delta-plus approach.

B.5.1 Simplified approach

94. A reporting institution should not use the simplified approach to calculate the market risk capital charge for its option exposures unless the institution:

(a) purchases option contracts but does not write option contracts; or

(b) purchases option contracts and only writes option contracts that are fully hedged by matched long positions in the same option contracts.

The institution should exclude from the calculation the option contracts written by it and the corresponding purchased option contracts fully hedged by such written option contracts. Only its outstanding purchased option contracts should be used for the calculation of the market risk capital charge under the simplified approach.

95. A reporting institution's positions in the outstanding purchased option contracts and the related underlying exposures of those option contracts are not subject to the calculation methodologies set out in sections B.1 to B.4. These positions are "carved-out" and reported in Division E.1 of the Form, subject to separately calculated market risk capital charges that incorporate both specific risk and general market risk.

96. A reporting institution should, for the purposes of calculating the market risk capital charge for its outstanding purchased option contracts (with or without related positions in the underlying exposures of those option contracts):

(a) where the institution has:

(i) a long position in a put option contract and a long position in the underlying exposure of the put option contract; or

(ii) a long position in a call option contract and a short position in the underlying exposure of the call option contract,

multiply the fair value of the position in the underlying exposure of the option contract by the sum of the market risk capital charge factors for general market risk and specific risk for the position in the underlying exposure of such option contract as set out in **Table 4** less the amount by which the option contract is in-the-money (if any). For example, if a reporting institution holding 100 shares currently valued at $10 each holds an equivalent put option contract with a strike price of $11, the market risk capital charge will be: $1,000 x 16% (8% specific risk plus 8% general market risk) = $160, less the amount by which the option contract is in-the-money ($11 - $10) x 100 = $100, that is, $60. Where the amount derived from the calculation is negative, the institution should treat the market risk capital charge for the relevant outstanding purchased option contract and the position in the underlying exposure of such option contract as zero;

(b) where the institution has a long position in a call option contract or a long position in a put option contract, use the lesser of:

(i) the fair value of the underlying exposure of the option contract multiplied by the sum of the market risk capital charge factors for general market risk and specific risk for the underlying exposure of such option contract as set out in **Table 4**; and

(ii) the fair value of the option contract; and

(c) calculate in a way such that:

(i) the market risk capital charge is calculated separately for individual option contracts but together with the related position in the underlying exposure of such option contracts;

(ii) the institution uses the sum of the market risk capital charge for individual option contracts to calculate the total market risk capital charge for its portfolio of option exposures.

Table 4: Market risk capital charge factor for each risk category

Risk category	**Market risk capital charge factor for specific risk**	**Market risk capital charge factor for general market risk**
Interest rate	As per the market risk capital charge factors for specific risk set out in **Table 1** according to the class, credit quality grade and residual maturity	As per the risk-weights set out in **Table 2** according to the residual maturity for fixed rate exposures or residual term to next interest fixing date for floating rate exposures and coupon rate
Equity	8.00%	8.00%
Foreign exchange	0.00%	8.00%
Commodity	0.00%	15.00%

97. If it is unclear to a reporting institution which side of an option contract purchased by it constitutes the underlying exposure, the institution should take the exposure which would be received by it if the option under the contract were exercised to be the underlying exposure. In addition, the nominal value should be used for option contracts where the market value of the underlying exposure could be zero, e.g. caps and floors, swaption contracts, etc.

98. For the purposes of calculating the market risk capital charge for an option contract purchased by the institution which has a residual maturity of more than 6 months, the strike price of the option contract should be compared with the forward price (i.e. not the current market price) of the underlying exposure of the option contract. If it is not practical for the institution to do so, it should take the amount by which the option contract is considered to be in-the-money as zero.

B.5.2 Delta-plus approach

99. A reporting institution which writes option contracts (other than a reporting institution using the simplified approach) should adopt the delta-plus approach and incorporate

the delta-weighted positions of its outstanding option contracts into their respective risk categories, i.e. reported in Divisions A to D of the Form. Such delta-weighted option positions should be subject to:

(a) the market risk capital charge for general market risk and specific risk for ***delta*** risk;

(b) the market risk capital charge for ***gamma*** risk; and

(c) the market risk capital charge for ***vega*** risk.

Delta risk

100. A reporting institution should, for the purposes of calculating its delta risk, slot its delta-weighted positions which have debt securities or interest rates as the underlying exposures of the relevant option contracts into the time bands set out in **Table 2**.

101. Interest rate option contracts should be regarded as long and short positions such that one position is referenced to the time the option contract concerned takes effect and the other position is referenced to the time that option contract matures. For example:

(a) a purchased call option contract on a June three-month interest rate futures contract is to be reported in March, on the basis of its delta-weighted position, as a long position in a six-month zero-coupon specific risk-free security and a short position in a three-month zero-coupon specific risk-free security. A written option contract should similarly be reported as a long position in a three-month zero-coupon specific risk-free security and a short position in a six-month zero-coupon specific risk-free security;

(b) a two-month purchased call option contract on a bond futures contract where delivery of the five-year bond takes place in September is to be reported in March as a long position in a 5 1/2 year bond and a short position in a six-month zero-coupon specific risk-free security, both positions being delta-weighted; and

(c) floating rate instruments with caps or floors are to be reported as a combination of floating rate securities and a series of European-style option contracts. For example, the holder of a two-year floating rate bond indexed to six month LIBOR with a cap of 8% should be reported as:

(i) a bond that reprices in six months; and

(ii) a series of three written call option contracts on a forward rate agreement with a reference rate of 8%, each with a negative sign at the time the underlying agreement takes effect and a positive sign at the time the underlying agreement matures. The instructions applying to closely matched positions set out in paragraph 63 should also apply (see example (7) in **Annex IV-B**).

102. A reporting institution should calculate the market risk capital charge for its option contracts with equities or equity indices as the underlying exposure by applying the calculation treatment set out in section B.2 to the delta-weighted positions of those option contracts. For this purpose, equities or equity indices on each exchange should be treated as a separate underlying exposure.

103. A reporting institution should calculate the market risk capital charge for its option contracts with foreign exchange or gold as the underlying exposure by applying the calculation treatment set out in section B.3 to the net delta-weighted positions (being the difference between the institution's total delta-weighted long positions and its total delta-weighted short positions) of those option contracts.

104. A reporting institution should calculate the market risk capital charge for its option contracts with commodities as the underlying exposure by applying the calculation treatment set out in section B.4 to the delta-weighted positions of those option contracts.

105. To sum up, the calculation treatment of the delta-weighted option positions should be the same as those for the positions in the underlying exposures of the option contracts as described in sections B.1 to B.4, except that the value of the underlying exposures should be adjusted by the delta of the relevant option contracts.

Gamma risk

106. Market risk capital charges for gamma risk should be reported in Division E.2 of the Form.

107. A reporting institution should calculate the gamma impact of each of its option contracts by using the following formula:

Gamma impact = $\frac{1}{2}$ x Gamma x VU^2

where VU = variation of the underlying exposure of the option contract

108. VU should be calculated as:

(a) for option contracts relating to debt securities, debt security indices and interest rates, the fair value of that underlying exposure multiplied by the risk-weight for the appropriate time band set out in **Table 2**;

(b) for option contracts relating to equities and equity indices, the fair value of that underlying exposure multiplied by 8%;

(c) for option contracts relating to foreign exchange (including gold), the fair value of that underlying exposure multiplied by 8%; and

(d) for option contracts relating to commodities, the fair value of that underlying exposure multiplied by 15%.

109. For the purposes of paragraph 108, a reporting institution should treat the following positions as the same underlying exposure:

(a) for interest rate exposures, positions within each time band as set out in **<u>Table 2</u>**;

(b) for equities and equity indices exposures, positions on each exchange;

(c) for foreign exchange and gold exposures, positions in each currency pair and gold; and

(d) for commodity exposures, positions in each commodity.

A reporting institution with option positions relating to more underlying exposures than the space provided in Division E.2 of the Form should report its positions in additional forms.

110. Each option contract on the same underlying exposure should have a gamma impact that is either positive or negative. These individual gamma impacts should be offset to produce a positive or negative net gamma impact for that exposure. Only those negative net gamma impacts are reported in Division E.2 of the Form and included in the calculation of the reporting institution's market risk capital charge for gamma risk. The total market risk capital charge for gamma risk is the sum of the absolute value of the negative net gamma impacts.

<u>Vega risk</u>

111. Market risk capital charges for vega risk should be reported in Division E.2 of the Form. A reporting institution should calculate the market risk capital charge for vega risk by multiplying the sum of the vegas for all of its option contracts on the same underlying exposure as defined in paragraph 108 by a proportional shift of 25% in the volatility of the value of the underlying exposures of those option contracts. For example, an increase of volatility in the value of the underlying exposure of an option contract carries a risk of loss for a short position in such option contract. Assuming the current volatility of the underlying exposure of the option contract at 20%, a proportional shift of 25% in the volatility means that the vega of the option contract has to be calculated on the basis of an increase in volatility of 5 percentage points from 20% to 25%. If the vega of an option contract is calculated as 1.68, i.e. a 1% increase in volatility increases the value of the option contract by 1.68, the change in volatility of 5 percentage points should increase the value of the option contract by 8.4 (1.68 x 5) which represents the market risk capital charge for vega risk to be reported in Division E.2 of the Form.

112. The total market risk capital charge for vega risk is the sum of the absolute value of the individual market risk capital charges for vega risk.

Section C: IMM Approach to the Calculation of Market Risk

113. A reporting institution which has been approved by the MA to use the IMM approach to calculate its market risk is required to complete Division F and, where applicable, Division A1(b), (c) or (d) (see paragraph 114), of the Form. This section covers the reporting of regulatory capital for market risk under Division F of the Form using the IMM approach.

114. Even if a reporting institution has the MA's approval to calculate the specific risk charge for interest rate exposures using the IMM approach, the institution must nevertheless apply the STM approach to calculate the market risk capital charge for specific risk for its trading book positions (whether long or short) in:

(a) n^{th}-to-default credit derivative contracts which fall within section 286(a)(iv) of the Rules (please refer to section B.1.1.4 for the applicable instructions);

(b) securitization exposures which fall within section 286(a)(ii) of the Rules (please refer to section B.1.1.2 for the applicable instructions); and

(c) exposures which fall within section 286(a)(iii) of the Rules (i.e. correlation trading portfolio) but for which the institution does not have the approval of the MA to calculate a comprehensive risk charge under the IMM approach (please refer to section B.1.1.3 for the applicable instructions).

115. Subject to paragraphs 116 and 117, a reporting institution should calculate the risk-weighted amount for market risk as the sum of:

(a) the market risk capital charge for general market risk calculated by the institution's ***internal model***(s) expressed as ***VaR*** and ***stressed VaR***;

(b) where applicable, the market risk capital charge for specific risk for interest rate exposures and equity exposures calculated by the institution's internal model(s) expressed as VaR, stressed VaR, incremental risk charge and/or ***comprehensive risk charge***; and

(c) where applicable, the supplemental capital charge referred to in section 318(3) of the Rules in respect of a correlation trading portfolio,

multiplied by 12.5.

116. A reporting institution may have a portfolio of its market risk positions which fall within a risk category (the relevant portfolio) excluded from its market risk calculation under the IMM approach if the institution is granted an exemption by the MA under section 23A(2)(a) of the Rules. A reporting institution to which such an exemption is granted should use the STM approach to calculate its market risk for the relevant portfolio to which the exemption relates.

117. For the purposes of calculating the market risk capital charge for its positions in foreign exchange (including gold) and exchange rate-related derivative contracts, a reporting institution should not exclude any of its structural positions from such

calculation except after consultation with the MA. In this regard, "structural position" means a position in foreign exchange held by the institution with the intention of hedging any adverse effect of exchange rate movements on its capital adequacy ratios.

C.1. Market risk capital charge calculated by internal models

C.1.1. Division F.1(a) of Form MA(BS)3(IV) - Market risk capital charge for general market risk : VaR and stressed VaR

118. If a reporting institution uses an internal model to calculate the market risk capital charge for general market risk, the institution should report-

(a) the VaR and the stressed VaR calculated by the internal model as at the last ***trading day*** of the reporting quarter in column (a) of Division F.1(a) of the Form (if the stressed VaR as at that day is not available, report the latest available stressed VaR); and

(b) the average VaR and the average stressed VaR for the last 60 trading days of the reporting quarter[7] in column (b) of Division F.1(a) of the Form, both for individual risk categories (i.e. items 1.1 to 1.4 in respect of the VaR, and items 2.1 to 2.4 in respect of the stressed VaR, of Division F.1(a) of the Form) and the aggregate of all risk categories (i.e. item 1.5 in respect of the VaR, and item 2.5 in respect of the stressed VaR, of Division F.1(a) of the Form).

119. For the purposes of calculating a stressed VaR, a reporting institution must, in accordance with section 317(2) of the Rules, obtain the prior consent of the MA for the use of a ***stressed VaR relevant period*** in respect of any portfolio of exposures included in the calculation, and thereafter regularly review, on at least an annual basis, the appropriateness of such a period.

120. If the MA is satisfied that the reporting institution's system for identifying and measuring correlations is effective for its purpose and implemented in a prudent manner, recognition of empirical correlations across the risk categories (including related option volatilities in each risk category) is allowed. The VaR or the stressed VaR for the aggregate of all risk categories is not necessarily equal to an arithmetic sum of the VaR or the stressed VaR for individual risk categories because of the correlations across the risk categories.

121. A reporting institution should report in item 1.5(c) of Division F.1(a) of the Form the number of ***back-testing exceptions*** in relation to the VaR for the last 250 trading days of the reporting quarter (i.e. from the reporting quarter end going backwards) based on the actual daily changes in portfolio value. Similarly, the institution should, where applicable, report in item 1.5(d) of Division F.1(a) of the Form the number of back-

[7] It is expected that the basis for computing the <u>average</u> stressed VaR, <u>average</u> incremental risk charge or <u>average</u> comprehensive risk charge should be consistent with that of the AI's computation frequency for the respective market risk capital charge. For instance, if an AI calculates its stressed VaR on a daily basis, then it should calculate a daily average stressed VaR over the last 60 trading days of the reporting quarter; if the AI calculates its stressed VaR on a weekly basis, then a weekly average of the stressed VaR over the specified period should be calculated.

testing exceptions in relation to the VaR for the last 250 trading days of the reporting quarter based on the hypothetical changes in portfolio value that would occur if end-of-day positions remained unchanged during the one day holding period.

122. The multiplication factors, m_c for the VaR and m_s for the stressed VaR, to be reported respectively in items 1.5(e) and 2.5(e) of Division F.1(a) of the Form are separately the sum of:

(a) the value of 3;

(b) a plus factor, ranging from zero to one, based on the number of back-testing exceptions in relation only to the VaR (i.e. the larger of item 1.5(c) and item 1.5(d) of Division F.1(a) of the Form) for the last 250 trading days derived from **Table 5** or other considerations which satisfy the MA that the model in use is fundamentally sound and any increase in the back-testing exceptions is temporary; and

Table 5: Plus factors for back-testing exceptions

Zone	**Number of back-testing exceptions out of 250 observations**	**Plus factor**
Green zone	Less than 5	0.00
Yellow zone	5	0.40
	6	0.50
	7	0.65
	8	0.75
	9	0.85
Red zone	10 or more	1.00

(c) any additional plus factor assigned to the institution by the MA. Where the MA is satisfied that the institution has ceased to satisfy any of the requirements specified in Schedule 3 of the Rules applicable to the institution, the MA may assign an additional plus factor to the institution (the value of item 1.5(e) is equal to item 2.5(e) only if the additional plus factor assigned by the MA for calculating m_c is the same as that assigned for calculating m_s).

123. A reporting institution should not, without the prior consent of the MA, make any significant change to the approach it uses to determine the number of back-testing exceptions under paragraph 122(b).

124. A reporting institution should report the market risk capital charge for general market risk calculated by the internal model expressed as VaR in item 1.7 (or that expressed as stressed VaR in item 2.7) of Division F.1(a) of the Form which is the higher of:

(a) item 1.5(a), i.e. the VaR for the aggregate of all risk categories as at the last trading day of the reporting quarter (or item 2.5(a), i.e. the institution's stressed VaR for the aggregate of all risk categories as at the last trading day of

the reporting quarter (if the stressed VaR as at that day is not available, the latest available stressed VaR)); and

(b) item 1.6, i.e. the average VaR for the last 60 trading days of the reporting quarter (item 1.5(b)) times the multiplication factor, m_c, in item 1.5(e) (or item 2.6, i.e. the average stressed VaR for the last 60 trading days of the reporting quarter (item 2.5(b)) times the multiplication factor, m_s, in item 2.5(e)).

125. However, if a reporting institution uses a single internal model to calculate the market risk capital charge for both general market risk and specific risk expressed as VaR (or stressed VaR), the institution does not need to report its calculation for general market risk and specific risk separately. In other words, the figures reported in items 1.1 to 1.7 in relation to the VaR (or those in items 2.1 to 2.7 in relation to the stressed VaR) of Division F.1(a) of the Form cover both general market risk and specific risk, and the institution is not required to complete Division F.1(b) of the Form.

126. A reporting institution should report in item 3 of Division F.1(a) of the Form the total market risk capital charge for general market risk calculated by internal models expressed as VaR and stressed VaR, which is equal to the sum of items 1.7 and 2.7 of Division F.1(a) of the Form.

C.1.2. Division F.1(b) of Form MA(BS)3(IV) - Market risk capital charge for specific risk : VaR and stressed VaR

127. If a reporting institution uses one internal model to calculate the market risk capital charge for general market risk and another internal model to calculate the market risk capital charge for specific risk, the institution should report the figures relating to the market risk capital charge for specific risk expressed as VaR and stressed VaR in items 1 and 2 of Division F.1(b) of the Form respectively according to the following instructions:

(a) report in item 1.1(a) the VaR, and in item 2.1(a) the stressed VaR, for the aggregate of all risk categories (i.e. interest rate exposures and equity exposures) as at the last trading day of the reporting quarter (if the stressed VaR as at that day is not available, report the latest available stressed VaR);

(b) report in item 1.1(b) the average VaR, and in item 2.1(b) the average stressed VaR, for the last 60 trading days of the reporting quarter[7];

(c) report in item 1.1(c) the number of back-testing exceptions in relation to the VaR for the last 250 trading days of the reporting quarter based on the actual daily changes in portfolio value;

(d) report in item 1.1(d) the number of back-testing exceptions in relation to the VaR for the last 250 trading days of the reporting quarter based on the hypothetical changes in portfolio value that would occur if end-of-day positions remained unchanged during the one day holding period;

(e) report in items 1.1(e) and 2.1(e) respectively the multiplication factors, m_c for the VaR and m_s for the stressed VaR, which are calculated according to paragraph 122 (item 1.1(e) is equal to item 2.1(e) only if the additional plus factor assigned by the MA for calculating m_c is the same as that assigned for calculating m_s);

(f) report in item 1.2 the average VaR for the last 60 trading days of the reporting quarter (item 1.1(b)) times the multiplication factor, m_c (item 1.1(e)) (or report in item 2.2 the average stressed VaR for the last 60 trading days of the reporting quarter (item 2.1(b)) times the multiplication factor, m_s (item 2.1(e))); and

(g) report in item 1.3 the market risk capital charge for specific risk expressed as VaR, which is the higher of item 1.1(a) and item 1.2 (or report in item 2.3 the market risk capital charge for specific risk expressed as stressed VaR, which is the higher of item 2.1(a) and item 2.2).

128. For the purposes of calculating stressed VaR, a reporting institution must, in accordance with section 317(2) of the Rules, obtain the prior consent of the MA for the use of a stressed VaR relevant period in respect of any portfolio of exposures included in the calculation, and thereafter regularly review, on at least an annual basis, the appropriateness of such a period.

129. A reporting institution should report in item 3 of Division F.1(b) of the Form the total market risk capital charge for specific risk calculated by internal models expressed as VaR and stressed VaR, which is equal to the sum of items 1.3 and 2.3 of Division F.1(b) of the Form.

130. A reporting institution to which paragraph 114 applies may, in addition to calculating the market risk capital charge for specific risk for the relevant exposures under the STM approach, also apply to the MA to include the institution’s interest rate exposures referred to in paragraph 114(a) and (b) in its calculation of the market risk capital charge for specific risk expressed as VaR and stressed VaR under the IMM approach.

C.1.3. Division F.1(c) of Form MA(BS)3(IV) - Market risk capital charge for specific risk : Incremental risk charge, comprehensive risk charge and supplemental capital charge

131. A reporting institution that models specific risk is subject to the market risk capital charge for specific risk expressed as the incremental risk charge and/or comprehensive risk charge in the following circumstances –

(a) the institution that has the approval of the MA to model specific risk for interest rate exposures should calculate the incremental risk charge for its trading book positions in interest rate exposures that fall within paragraph (a) of the definition of incremental risk charge in section 281 of the Rules. Failure to obtain such an approval means that the institution has to calculate

the market risk capital charge for specific risk for those positions using the STM approach;

(b) the institution that has the approval of the MA to model specific risk for both interest rate exposures and equity exposures may, at its discretion, choose to seek the MA's approval to calculate the incremental risk charge for its trading book positions in equity exposures that fall within paragraph (b) of the definition of incremental risk charge in section 281 of the Rules; and

(c) the institution that has the approval of the MA to model specific risk for interest rate exposures may seek the MA's approval to calculate the comprehensive risk charge for its trading book positions in a correlation trading portfolio; otherwise the institution has to calculate the market risk capital charge for specific risk for those positions using the STM approach.

132. A reporting institution should report, where applicable, its incremental risk charge and comprehensive risk charge in Sections 1 and 2 of Division F.1(c) of the Form respectively as follows:

(a) report the latest available incremental risk charge or comprehensive risk charge calculated by the institution (at least once a week, or more frequently as required by the MA, using the internal model) in the following manner (however, incremental risk charge or comprehensive risk charge calculated as at the last trading day of the reporting quarter is preferred) –

(i) the incremental risk charge arising from interest rate exposures and equity exposures are to be reported in items 1.1(a) and 1.2(a) respectively, and the aggregate incremental risk charge in item 1.3(a); and

(ii) the comprehensive risk charge for the correlation trading portfolio is to be reported in item 2.1(a);

(b) similarly report the average incremental risk charge and average comprehensive risk charge for the last 12 weeks of the reporting quarter[7] in items 1.1(b) to 1.3(b), and in item 2.1(b), of Division F.1(c) of the Form respectively;

(c) report the scaling factors, S_i for the incremental risk charge in item 1.3(c), and S_c for the comprehensive risk charge in item 2.1(c). The respective scaling factors are to be 1 or such other value as the MA may specify in a notice in writing given to the institution;

(d) report the incremental risk charge calculated by the internal model in item 1.4 of Division F.1(c) of the Form, which is derived by multiplying the scaling factor, S_i, in item 1.3(c) by the higher of:

(i) item 1.3(a), i.e. the institution's aggregate latest available incremental risk charge of the reporting quarter; and

(ii) item 1.3(b), i.e. the institution's average incremental risk charge for the last 12 weeks of the reporting quarter;

(e) report the comprehensive risk charge calculated by the internal model in item 2.2 of Division F.1(c) of the Form, which is derived by multiplying the scaling factor, S_c, in item 2.1(c) by the higher of:

(i) item 2.1(a), i.e. the institution's latest available comprehensive risk charge of the reporting quarter; and

(ii) item 2.1(b), i.e. the institution's average comprehensive risk charge for the last 12 weeks of the reporting quarter;

(f) derive the applicable amount of market risk capital charge for specific risk for the correlation trading portfolio to be reported in item 2.4, for the purpose of which, the institution should -

(i) calculate the market risk capital charge for specific risk for each of the long and short positions in its correlation trading portfolio using the STM approach in accordance with the instructions in section B.1.1.3, and report the total market risk capital charge for specific risk for those positions in item 2.3.1 (for long positions) or 2.3.2 (for short positions) of Division F.1(c) of the Form;

(ii) report in item 2.3 of Division F.1(c) of the Form 8% of the higher of item 2.3.1 and 2.3.2 of Division F.1(c) of the Form as the floor for the comprehensive risk charge; and

(iii) report the applicable amount of the comprehensive risk charge for the correlation trading portfolio for the institution in item 2.4 of Division F.1(c) of the Form, which is the higher of item 2.2 and item 2.3.

133. A reporting institution must include the interest rate exposures subject to the incremental risk charge, and those subject to the comprehensive risk charge, in its calculation of VaR and stressed VaR.

134. A reporting institution must not offset its incremental risk charge against the comprehensive risk charge, or offset these two capital charges with other market risk capital charge applicable to the positions covered.

135. A reporting institution that is subject to the stress-testing requirements on correlation trading portfolio as set out in section 4(g) of Schedule 3 to the Rules is required under section 4(h) to conduct such stress tests at least weekly, and report its stress-testing results to the MA on a quarterly basis unless otherwise advised by the MA. Also, where the stress-testing results indicate a material shortfall of the comprehensive risk charge, the institution should report to the MA as soon as reasonably practicable in all the circumstances of the case. In this connection, the institution should -

(a) submit its latest stress-testing results on its correlation trading portfolio, including comparisons with the comprehensive risk charge calculated using

the institution's internally-developed approach, to its usual supervisory contact for review upon submission of the quarterly CAR Returns, and in any case no later than 6 weeks after each quarter-end (unless otherwise advised by the MA); and

(b) report to its usual supervisory contact any instances where the stress tests indicate a material shortfall of the comprehensive risk charge as soon as reasonably practicable in all the circumstances of the case. The HKMA would generally consider submission of such exception reports within 3 business days after the business day on which the AI's stress test has identified a material shortfall as a reasonable period.

136. If the MA is satisfied that the stress-testing results referred to in section 4(g) of Schedule 3 to the Rules indicate a material shortfall in the comprehensive risk charge of a reporting institution, the MA may impose a supplemental capital charge on the correlation trading portfolio, which should be reported in item 3 of Division F.1(c) of the Form.

137. A reporting institution should report in item 4 of Division F.1(c) of the Form (where applicable) the total market risk capital charge for specific risk calculated by internal models expressed as incremental risk charge or comprehensive risk charge, and the supplemental capital charge, as the sum of items 1.4, 2.4 and 3 of Division F.1(c) of the Form.

C.1.4. Division F.1(d) of Form MA(BS)3(IV) - Total market risk capital charge for specific risk under the IMM approach

138. A reporting institution should report in Division F.1(d) of the Form the total market risk capital charge for specific risk calculated by internal models under the IMM approach, which equals to the sum of items F.1(b)(3) and F.1(c)(4) of the Form.

139. If a reporting institution is not approved by the MA to use the IMM approach to model the VaR, stressed VaR, incremental risk charge and/or comprehensive risk charge, as the case may be, it should report the market risk capital charge for specific risk for debt securities, debt-related derivative contracts and credit derivative contracts in Division A of the Form and that for equities and equity-related derivative contracts in Division B of the Form.

C.1.5. Division F.1(e) of Form MA(BS)3(IV) - Total market risk capital charge under the IMM approach

140. Where a reporting institution uses more than one internal model to calculate the market risk capital charge for general market risk and the market risk capital charge for specific risk, the institution must comply with sections C.1.1, C.1.2 and C.1.3 of the instructions, as the case may be, except that it must apply the section(s) concerned separately to the relevant market risk capital charge generated from each model.

141. A reporting institution should report in Division F.1(e) of the Form its total market risk capital charge under the IMM approach, which is equal to the sum of items F.1(a)3 and F.1(d) of the Form.

C.2 Largest daily losses over the quarter

142. A reporting institution should report in Division F.2 of the Form in descending order (i) the five largest daily losses over the reporting quarter and (ii) their respective one-day VaR for the exposures calculated by the internal models. If the number of daily losses during the reporting quarter is less than five, only all of such daily losses should be reported.

Section D: Risk-weighted Amount for Market Risk

143. The total market risk capital charges calculated under the STM approach for each risk category should be extracted from Divisions A to E of the Form and reported in item 1 of Division G of the Form.

144. The total market risk capital charges calculated under the IMM approach should be extracted from Division F.1(e) of the Form and reported in item 2 of Division G of the Form.

145. The total risk-weighted amount for market risk of a reporting institution (i.e. item 3 of Division G of the Form) is equal to the sum of total market risk capital charge calculated under the STM approach (i.e. item 1 of Division G of the Form) and that calculated under the IMM approach (i.e. item 2 of Division G of the Form), multiplied by 12.5.

Hong Kong Monetary Authority
March 2018

Annex IV-A

Calculation of market risk capital charge for credit derivative contracts booked in reporting institutions' trading book

General

1. The calculation of market risk capital charge for credit derivative contracts (e.g. ***total return swap***, ***credit default swap*** and credit-linked note) booked in a reporting institution's trading book is set out in this Annex, which should be read in conjunction with the completion instructions of this Return, CR-G-12 "Credit Derivatives" and Division 10 of Part 8 of the Rules. An authorized institution should use the notional amount of the credit derivative contract to calculate the market risk capital charge for its credit derivative contracts except for those that fall within paragraphs 19 and 20 of this Annex where the fair value of the credit-linked note should be used. A reporting institution should consult with the MA on the appropriate treatment of any credit derivative contracts it has entered into if the structure of, or the arrangement of, such contracts is not covered in this Annex.

STM Approach to the calculation of market risk

Specific risk

2. If a reporting institution has entered into a total return swap or a credit default swap as the protection seller, the institution should record a long position in the reference obligation specified in the swap contract.

3. If a reporting institution has entered into a total return swap or a credit default swap as the protection buyer, the institution should record a short position in the reference obligation specified in the swap contract.

4. If a reporting institution has purchased a credit-linked note (as the protection seller), the institution should record a long position in the reference obligation specified in the note and a long position in the note issuer.

5. If a reporting institution has issued a credit-linked note (as the protection buyer), the institution should record a short position in the reference obligation specified in the note.

6. Subject to paragraph 7, for the purposes of calculating the market risk capital charge for specific risk for n^{th}-to-default credit derivative contracts that fall within section 286(a)(iv) of the Rules, a reporting institution should -

    (a) if the n^{th}-to-default credit derivative contract has an ECAI issue specific rating, apply section 287A(3A), (6) or (8) of the Rules, as the case may be, as if the contract were a securitization exposure in respect of positions in which the institution is the protection seller;

(b) for other n^{th}-to-default credit derivative contracts, apply section 287 and Division 10 of the Rules.

7. For the purposes of paragraph 6:

(a) where a reporting institution has a position in one of the reference obligations underlying a first-to-default credit derivative contract and the contract hedges that position, the institution may offset with respect to the hedged amount (i) the market risk capital charge for specific risk for its position in the reference obligation; and (ii) that part of the market risk capital charge for specific risk for the credit derivative contract that relates to that particular reference obligation;

(b) where a reporting institution has multiple positions in the reference obligations underlying a first-to-default credit derivative contract, the offsetting of market risk capital charge specified in paragraph (a) above is allowed only for its positions in the underlying reference obligation having the lowest market risk capital charge for specific risk; and

(c) to avoid doubt, for the purposes of paragraphs (a) and (b) above, a reporting institution should-

(i) first offset the long and short positions in identical first-to-default credit derivative contracts before applying these two paragraphs as appropriate; and

(ii) not offset the market risk capital charge for specific risk for its position in any n^{th}-to-default credit derivative contract where n is greater than 1 with the market risk capital charge for its position in any underlying reference obligation.

8. If a reporting institution enters into a credit default swap, total return swap or credit-linked note which provides for payment to be made proportionately in respect of the reference obligations in the basket of reference obligations specified in the swap contract or note, as the case may be, the institution should record its positions in the reference obligations according to their respective proportions specified in the swap contract or note, as the case may be.

9. If a reporting institution has purchased or issued a credit-linked note which is referenced to multiple reference obligations and satisfies the conditions for a qualifying debt security or debt-related derivative contract set out in section B.1.1 of the completion instructions, the institution may:

(a) if it has purchased the note, record the specific risk arising from its long positions in the multiple reference obligations specified in the note as a single long position in the note;

(b) if it has issued the note, record the specific risk arising from its short positions in the multiple reference obligations specified in the note as a single short position in the note.

10. Subject to paragraph 7, a reporting institution may use a credit derivative contract booked in the institution's trading book to offset the market risk capital charge for specific risk calculated for the institution's trading book position in-

(a) the underlying exposure in accordance with paragraph 11, 12 or 13 of this Annex; or

(b) another credit derivative contract in accordance with paragraph 11 (excluding subparagraph (b)), 12 or 13 (excluding subparagraph (a)) of this Annex with all necessary modifications.

If paragraph 11, 12 or 13 of this Annex does not permit a reporting institution to use a credit derivative contract booked in the institution's trading book to offset the market risk capital charge for specific risk calculated for the institution's trading book position in the underlying exposure or in another credit derivative contract, the institution should calculate and provide the market risk capital charge against both trading book positions.

11. A reporting institution may offset 100% of the market risk capital charge for specific risk for its position in a credit derivative contract against that for a position in the underlying exposure which is identical to the reference obligation specified in the contract if the values of the 2 positions, being the long or short position in the contract, and the short or long position respectively in the underlying exposure which is identical to the reference obligation specified in the contract, always move in the opposite direction and broadly to the same extent due to:

(a) the 2 positions consisting of identical exposures; or

(b) a long or short position in the underlying exposure being hedged by a total return swap and there being a match between the reference obligation specified in the total return swap and the position in the underlying exposure in every aspect, and notwithstanding that the maturity of the total return swap may be different from that of the position in the underlying exposure.

If a reporting institution offsets the market risk capital charge for specific risk for its positions pursuant to this paragraph, no market risk capital charge for specific risk is required to be calculated in respect of those positions.

12. A reporting institution may offset 80% of the market risk capital charge for specific risk for its position in a credit derivative contract against that for a position in the underlying exposure which is identical to the reference obligation specified in the contract where (i) the values of the 2 positions, being the long or short position in the contract, and the short or long position respectively in the underlying exposure which is identical to the reference obligation specified in the contract, always move in the opposite direction but not broadly to the same extent as set out in paragraph 11 of this Annex; and (ii) the institution demonstrates to the satisfaction of the MA that the

contract can mitigate the credit risk of the institution's position in the underlying exposure effectively. A reporting institution falls within this paragraph in any case where:

(a) subject to paragraphs (b), (c) and (d), the institution's long or short position in the underlying exposure is effectively hedged by a credit default swap or a credit-linked note;

(b) there is a match between:

(i) the reference obligation specified in the credit default swap or credit-linked note referred to in paragraph (a) and the position in the underlying exposure;

(ii) the maturity of the reference obligation specified in the credit default swap or credit-linked note referred to in paragraph (a) and of the swap contract or note, as the case may be; and

(iii) the currency in which the credit default swap or credit-linked note referred to in paragraph (a) and the position in the underlying exposure are denominated;

(c) the ***credit event*** definitions and settlement mechanisms and other key factors of the credit default swap or credit-linked note referred to in paragraph (a) do not cause the price movement of the swap contract or note, as the case may be, to materially deviate from the price movement of the position in the underlying exposure; and

(d) the credit default swap or credit-linked note referred to in paragraph (a) transfers risk effectively taking account of any restrictive payout provisions (including fixed payouts and materiality thresholds).

If a reporting institution offsets the market risk capital charge for specific risk for its positions pursuant to this paragraph, only 20% of the market risk capital charge for specific risk is required to be calculated for the position with the higher market risk capital charge for specific risk and the market risk capital charge for specific risk to be calculated for the other position shall be zero.

13. A reporting institution may offset partially the market risk capital charge for specific risk for its position in a credit derivative contract against that for a position in the underlying exposure where the values of the 2 positions, being the long or short position in the contract, and the short or long position respectively in the underlying exposure, usually move in the opposite direction in any case where:

(a) the positions would fall within paragraph 11(b) of this Annex but for there being an asset mismatch between the reference obligation specified in the contract and the position in the underlying exposure (being that the reference obligation and the position in the underlying exposure are similar but not identical) and:

(i) the reference obligation specified in the contract ranks for payment or repayment equally with, or junior to, the position in the underlying exposure; and

(ii) the obligor in respect of the position in the underlying exposure is the same legal entity as the obligor in respect of the reference obligation and legally enforceable cross default or cross acceleration clauses are included in the terms of the position in the underlying exposure and the reference obligation;

(b) the positions would fall within paragraph 11(a) or 12 of this Annex but for there being a currency or maturity mismatch between the contract and the position in the underlying exposure (***currency mismatch*** should be included in the calculation of market risk capital charge for foreign exchange exposures according to section B.3 of the completion instructions); or

(c) the positions would fall within paragraph 12 of this Annex but for there being an asset mismatch between the reference obligation specified in the contract and the position in the underlying exposure (being that the reference obligation and the position in the underlying exposure are similar but not identical) and the position in the underlying exposure is included in one of the deliverable obligations specified in the contract.

If a reporting institution offsets the market risk capital charge for specific risk for its positions pursuant to this paragraph, 100% of the market risk capital charge for specific risk is required to be calculated for the position with the higher market risk capital charge for specific risk and the market risk capital charge for specific risk to be calculated for the other position is to be zero.

General market risk

14. If a reporting institution has entered into a total return swap as the protection seller, the institution should:

(a) record a long position in the reference obligation specified in the swap contract;

(b) if there are periodic interest payments under the swap contract, record a short position in a specific risk-free security with fixed or floating rate interest according to the payment terms of the swap contract.

15. If a reporting institution has entered into a total return swap as the protection buyer, the institution should:

(a) record a short position in the reference obligation specified in the swap contract;

(b) if there are periodic interest payments under the swap contract, record a long position in a specific risk-free security with fixed or floating rate interest according to the payment terms of the swap contract.

16. If a reporting institution has entered into a credit default swap with no periodic premiums or interest payments under the swap contract, the institution is not required to calculate or provide the market risk capital charge for general market risk for the swap contract.

17. If a reporting institution has entered into a credit default swap as the protection seller with periodic premiums or interest payments under the swap contract, the institution should record a long position in a specific risk-free security with fixed or floating rate interest according to the payment terms of the swap contract.

18. If a reporting institution has entered into a credit default swap as the protection buyer with periodic premiums or interest payments under the swap contract, the institution should record a short position in a specific risk-free security with fixed or floating rate interest according to the payment terms of the swap contract.

19. If a reporting institution has purchased a credit-linked note, the institution should record a long position in the note.

20. If a reporting institution has issued a credit-linked note, the institution should record a short position in the note.

IMM Approach to the calculation of market risk

21. Subject to paragraph 114 of Section C in the main text, a reporting institution should comply with section C of the completion instructions and the requirements specified in Schedule 3 to the Rules to apply the IMM approach to calculate the market risk capital charge for credit derivative contracts booked in its trading book.

22. A reporting institution which does not use the IMM approach to calculate the market risk capital charge for credit derivative contracts booked in its trading book should use the STM approach to calculate those capital charges.

Counterparty credit risk

23. If a reporting institution has entered into a total return swap as the protection buyer or the protection seller, the institution should calculate and provide the amount of capital required to cover the counterparty credit risk of its position in the swap contract.

24. If a reporting institution has entered into a credit default swap as the protection buyer, the institution should calculate and provide the amount of capital required to cover the counterparty credit risk of its positions in the swap contract.

25. If a reporting institution has entered into a credit default swap as the protection seller with no periodic premiums or interest payments under the swap contract, the institution is not required to calculate or provide any amount of capital required to cover the counterparty credit risk of its position in the swap contract.

26. If a reporting institution has entered into a credit default swap as the protection seller with periodic premiums or interest payments under the swap contract, the institution should calculate and provide the amount of capital required to cover the counterparty credit risk of its position in the swap contract.

27. There is no counterparty credit risk for a reporting institution as the purchaser or issuer of a credit-linked note.

28. A reporting institution must use the current exposure method or the IMM(CCR) approach to calculate its default risk exposures arising from credit derivative contracts booked in its trading book. Part III of the completion instructions of the Return of Capital Adequacy Ratio regarding counterparty credit risk should apply to credit derivative contracts booked in a reporting institution's trading book.

29. A reporting institution must calculate the ***CVA capital charge*** in respect of credit derivative contracts booked in its trading book in accordance with Part 6A of the Rules, the completion instructions for which are set out under Part IIIf of the Return of Capital Adequacy Ratio.

<u>Foreign exchange risk</u>

30. If a reporting institution using the STM approach to calculate its market risk has entered into a credit derivative contract denominated in a currency other than HKD, the institution should apply the calculation treatment set out in section B.3 of the completion instructions to its foreign exchange position in the contract.

31. If a reporting institution using the IMM approach to calculate its market risk has entered into a credit derivative contract denominated in a currency other than HKD, the institution should apply the calculation treatment set out in section C of the completion instructions to its foreign exchange position in the contract.

Annex IV-B

Illustrative examples for calculation of market risk capital charges under STM approach

Suppose as at 31 December 20XX, Example Bank Ltd. has the following positions in non-securitization interest rate exposures that (a) do not fall within a correlation trading portfolio, and (b) are also not n^{th}-to-default credit derivative contracts:

1. a long position in US treasury bond (7.5% annual coupon) with face value equivalent to HKD78M and residual maturity of 8 years (fair value of the bond based on quoted price: HKD79,833K equivalent);

2. a long position in an unrated floating rate note (6.25% current annual coupon) issued by a US corporate with face value equivalent to HKD40M and next interest fixing date 9 months later (fair value of the note based on quoted price: HKD40,732K equivalent);

3. a long position in 10 futures contracts on 5-year US treasury note (face value USD100,000 per contract) for delivery 3 months later (selected deliverable: US treasury note (coupon 6.375%) maturing in 5.25 years, current price at 100.0625, conversion factor of 0.9423);

4. a single currency interest rate swap contract with face value HKD150M and residual maturity of 2.5 years (Example Bank Ltd receives annual floating rate interest and pays fixed rate interest at 8% per annum and the current floating rate is fixed at 5.5% with next interest fixing date 6 months later);

5. a long position in 50 futures contracts in 3-month HIBOR interest rate (face value HKD1M per contract) for delivery 6 months later;

6. a nine against fifteen forward rate agreement sold on 6-month HIBOR with notional amount HKD20M and settlement date 9 months later;

7. a GBP2M 2-year cap written on GBP 6-month LIBOR at cap rate 8%, next interest fixing date 6 months later and residual maturity 2 years (i.e. the cap is written on the reporting date);

8. a long position in forward foreign exchange contract of EUR5M against HKD25M equivalent maturing in 3 months;

9. a long position in 100,000 shares of a US listed company with current market price at HKD110 equivalent;

10. a long position in 50,000 shares of a HK listed company hedged by a long position in 25 put option contracts (each contract represents 1,000 shares) for the same equity (the current market price for the equity is HKD30 and the exercise price of all the option contracts is HKD33);

11. a short position in 1 Hang Seng Index futures contract for delivery 3 months later, current Hang Seng index at 10,000;

12. entered into a 5-year credit default swap as the protection seller (i.e. credit risk buyer) on HKD10M nominal of a non-qualifying Bond Y with a credit quality grade 4. The protection buyer pays it a fee of 100 basis points at the beginning and there are no periodic premiums or interest payments during the life of the swap. Under the terms of the contract, if a credit event occurs on Bond Y, it will pay the protection buyer HKD10M;

13. issued HKD1M nominal of a 3-year credit-linked note referenced to a non-qualifying Bond K with a credit quality grade 5. The note pays 8% interest annually. Under the terms of the contract, if no credit event occurs on Bond K, the note will mature at par in three years. If a credit event occurs on Bond K, the note will be redeemed for the credit event payment which is also set at HKD1M.

Positions to be reported in the Form:

1. Report the fair value of a long position in Division A.1(a), item 1.1 and Division A.2, USD ladder, >7 to 10 years time band.

2. Report the fair value of a long position in Division A.1(a), item 1.13 and Division A.2, USD ladder, >6 to 12 months time band.

3. Report a long position in the selected treasury note in Division A.1(a), item 1.1 and Division A.2, USD ladder, >5 to 7 years time band. Report the same amount for a short position in a zero-coupon specific risk-free security in Division A.2, USD ladder, >1 to 3 month time band.

   Assume spot exchange rate is 7.8,

   Amount to be reported: USD100,000 x 10 x 100.0625% / 0.9423 = USD1,061,896 = HKD8,283K equivalent

4. Report the fixed rate leg as a short position in a 2.5-year bond in Division A.2, HKD ladder, >2 to 3 years time band. Report the floating rate leg as a long position in a 6-month zero-coupon specific risk-free security in Division A.2, HKD ladder, >3 to 6 months time band.

   Assume the HKD zero-coupon yields are as follows:

Period	Zero-coupon yields
1M	5.31%
3M	5.63%
6M	5.81%
1Y	6.16%
2Y	6.69%
3Y	7.07%

(Zero-coupon yields within one year can be taken as cash rates i.e. HIBOR; zero-coupon yields beyond one year can be constructed from, say, swap rates.)

Cash flows of the two legs of the HKD swap contract:

Pay: fixed rate interest
8% of HKD150M in 6 months
8% of HKD150M in 18 months
108% of HKD150M in 30 months

Receive: floating rate interest
105.5% of 150M in 6 months

Zero-coupon (ZC) rates at 18 months can be obtained from the linear interpolation between the one-year and two-year zero-coupon rates.

ZC(18 months) = (6.16% + 6.69%) / 2 = 6.425%

Similarly,

ZC(30 months) = (6.69% + 7.07%) / 2 = 6.88%

PV of the fixed leg (i.e. pay side)

$$= \text{HKD150M} \times \left(\frac{0.08}{(1+0.0581\times 0.5)} + \frac{0.08}{(1+0.06425)^{1.5}} + \frac{1.08}{(1+0.0688)^{2.5}} \right)$$
$$= \text{HKD159,766K}$$

PV of the floating leg (i.e. receive side)

$$= \text{HKD150M} \times \frac{1.055}{(1+0.0581\times 0.5)}$$
$$= \text{HKD153,783K}$$

5. Report a long position in a 9-month zero-coupon specific risk-free security in Division A.2, HKD ladder, >6 to 12 months time band and a short position in a 6-month zero-coupon specific risk-free security in Division A.2, HKD ladder, >3 to 6 months time band.

Similar to the approach in example 4,
ZC(9 months) = (5.81% + 6.16%) / 2 = 5.985%

Amounts to be reported:

Long position	=	HKD50M / (1+ 0.05985 x 0.75)
	=	HKD50M x 0.957
	=	HKD47,852K
Short position	=	HKD50M / (1+ 0.0581 x 0.5)
	=	HKD50M x 0.9718

= HKD48,589K

6. Report a long position in a 15-month zero-coupon specific risk-free security in Division A.2, HKD ladder, >1.0 to 1.9 years time band and a short position in a 9-month zero-coupon specific risk-free security in Division A.2, HKD ladder, >6 to 12 months time band.

   Similar to the approach in example 4,
   ZC(15 months) = 6.16% + (6.69% - 6.16%) x 0.25 = 6.2925%

   Long position = HKD20M / $(1 + 0.062925)^{1.25}$
   = HKD18,531K

   Short position = HKD20M / (1 + 0.05985 x 0.75)
   = HKD19,141K

7. Report the cap as 3 written call option contracts on 6-month forward rate agreement i.e. 6 against 12, 12 against 18 and 18 against 24.

   (The rate for the first 6 months is already set on the reporting date i.e. the option contract already expires.)

   Assume the delta of the option contracts are:

6 against 12	0.055
12 against 18	0.17
18 against 24	0.225

   Assume the discounting factors are:

6 month	0.9674
12 month	0.9346
18 month	0.9009
24 month	0.8673

   Assume spot exchange rate is 12,

   Report in Division A.2, GBP ladder:

   For the first option contract -

   a long position in the >6 to 12 months time band
   = GBP2M x 0.055 x 0.9346
   = HKD1,234K equivalent

   a short position in the >3 to 6 months time band
   = GBP2M x 0.055 x 0.9674
   = HKD1,277K equivalent

   For the second option contract -

a long position in the >1.0 to 1.9 years time band
= GBP2M x 0.17 x 0.9009
= HKD3,676K equivalent

a short position in the >6 to 12 months time band
= GBP2M x 0.17 x 0.9346
= HKD3,813K equivalent

For the third option contract -

a long position in the >1.9 to 2.8 years time band
= GBP2M x 0.225 x 0.8673
= HKD4,683K equivalent

a short position in the >1.0 to 1.9 years time band
= GBP2M x 0.225 x 0.9009
= HKD4,865K equivalent

(For simplicity, reporting required in Division E.2 of the Form is not presented in this example.)

8. Report a long position in a 3-month zero-coupon specific risk-free security in Division A.2, EUR ladder, >1 to 3 months time band and a short position in a 3-month zero-coupon specific risk-free security, HKD ladder, >1 to 3 months time band.

Assume 3-month EUR cash rate is 3.25% and spot exchange rate is 10,

Long position = EUR5M / (1 + 0.0325 x 0.25)
= HKD49,597K equivalent

Short position = HKD25M / (1 + 0.0563 x 0.25)
= HKD24,653K

(For simplicity, reporting required in Division C of the Form is not presented in this example.)

9. Report a long position of HKD110 x 100,000 = HKD11M in Division B, item 1, US column.

10. Report a long position of HKD30 x 25,000 = HKD750K in Division B, item 1, HK column.

Report 25,000 shares covered by put option contract in Division E.1(a), item 1.3.

Amount to be reported:
= (25,000 x HKD30 x 16%) - [25,000 x HKD(33 - 30)]
= HKD45K

11. Report HKD50 x 10,000 = HKD500K in Division B, item 5, HK column and report the same amount in Division A.2, HKD ladder, >1 to 3 months time band.

12. Report a long position of HKD10M in Division A.1(a), item 1.11. No reporting is required in Division A.2.

13. Report a short position of HKD1M in Division A.1(a), item 1.12 and a short position in a 3-year note in Division A.2, HKD ladder, >2 to 3 years time band.

    Using the zero-coupon yields in example 4,

    Value of the note to be reported in Division A.2

$$= \text{HKD1M} \times \left(\frac{0.08}{(1+0.0616)} + \frac{0.08}{(1+0.0669)^2} + \frac{1.08}{(1+0.0707)^3} \right)$$

$$= \text{HKD1,026K}$$

<u>**Annex IV-C**</u>

Numerical illustration of the composition of the market risk capital charge for general market risk for interest rate exposures

1. Bank A has the following positions:

   (a) a long position in a qualifying bond, $13.33 million fair value, residual maturity 8 years, coupon rate 8%;

   (b) a long position in a sovereign bond, $75 million fair value, residual maturity 2 months, coupon rate 7%;

   (c) for an interest rate swap contract, $150 million[1], Bank A receives floating rate interest and pays fixed rate interest, next interest fixing date 9 months later, residual life of swap contract 8 years; and

   (d) a long position in an interest rate futures contract, $50 million, delivery date 6 months later, life of the underlying exposure 3.5 years.

2. The table below shows how these positions are slotted into the time bands and are weighted according to the risk-weights given in **<u>Table 2</u>** of section B.2. After weighting the positions, the next steps in the calculation will be:

($ million)	**Zone 1**				**Zone 2**			**Zone 3**					
Time band (coupon of not less than 3%)	0-1	>1-3	>3-6	>6-12	>1-2	>2-3	>3-4	>4-5	>5-7	>7-10	>10-15	>15-20	>20
	Months				Years								
Position		+75 Sov.	-50 Fut.	+150 Swap			+50 Fut.			-150 Swap +13.33 Qual.			
Risk-weight (%)	0.00	0.20	0.40	0.70	1.25	1.75	2.25	2.75	3.25	3.75	4.50	5.25	6.00
Position x Weight		+0.15	-0.20	+1.05			+1.125			-5.625 +0.5			
Vertical Disallow.										0.5 x 10% = 0.05			
Horizontal Disallow. 1	0.20 x 40 % = 0.08												
Horizontal Disallow. 2					1.125 x 40% = 0.45								
Horizontal Disallow. 3	1.0 x 100% = 1.0												

   (a) The *vertical disallowance* in time band >7-10 years has to be calculated: The matched position in this time band is $0.5 million (being the lesser of the absolute values of the total risk-weighted long and short positions) which leads to a market risk capital charge of $0.05 million (i.e. 10% of $0.5 million) or $50,000. The remaining net risk-weighted (short) position is -5.125.

[1] The positions should be recorded based on the fair value of the underlying exposure. Depending on the current interest rate, the fair value of each leg of the swap contract (i.e., the 8-year bond and the 9-month floater) can be either higher or lower than the notional amount. For the sake of simplicity, the illustration assumes that the current interest rate is identical with the one the swap contract is based on.

(b) The *horizontal disallowance for individual zones* has to be calculated: As there is more than one position in zone 1 only, a horizontal disallowance can be calculated in this zone. In doing this, the matched position is calculated as \$0.2 million (being the lesser of the absolute values of the total net risk-weighted long and short positions for the zone). The market risk capital charge for the horizontal disallowance in zone 1 is \$0.08 million (i.e. 40% of \$0.2 million) or \$80,000. The remaining net risk-weighted (long) position in zone 1 is +\$1.00 million.

(c) The *horizontal disallowances between adjacent zones*[2] have to be calculated: After calculating the net risk-weighted position in zone 1, the following risk-weighted positions remain: zone 1 +\$1.00 million, zone 2 +\$1.125 million, zone 3 -\$5.125 million. The matched position between zone 2 and zone 3 is \$1.125 million (being one zone having a total net risk-weighted long position while another zone has a total net risk-weighted short position). The market risk capital charge in this case is \$0.45 million (i.e. 40% of \$1.125 million) or \$450,000.

(d) The *horizontal disallowance between zone 1 and zone 3* has to be calculated: The net risk-weighted (long) position in zone 1 is +\$1.00 million, and the net risk-weighted (short) position in zone 3 is -\$4.00 million, resulting in a remaining net risk-weighted position of \$3.00 million (regardless of sign). The horizontal disallowance between the zone 1 and zone 3 is 100% of the matched position which leads to a market risk capital charge of \$1.00 million (i.e. 100% of \$1.00 million) or \$1,000,000.

(e) The remaining net risk-weighted position is \$3.00 million leading to a market risk capital charge of \$3,000,000.

3. The total market risk capital charge for general market risk in this illustration is:

• for the vertical disallowance	\$50,000
• for the horizontal disallowance in zone 1	\$80,000
• for the horizontal disallowance between adjacent zones	\$450,000
• for the horizontal disallowance between zone 1 and zone 3	\$1,000,000
• for the remaining net risk-weighted position	\$3,000,000
	\$4,580,000

[2] No horizontal disallowance between zone 1 and zone 2 needs to be calculated as their positions are of the same sign.

Market risk capital charge factors for
specific risk applicable to
securitization exposures held in the trading book
(as extracted from the Rules)

Table 28A

Market Risk Capital Charge Factors for Specific Risk
Applicable to Long-term Credit Quality Grades under STC(S) Approach
(Excluding Re-securitization Exposures)

Long-term credit quality grade	**Market risk capital charge factor**
1	1.6%
2	4.0%
3	8.0%
4	28.0% (for investing institutions)
	100.0% (for originating institutions)
5	100.0%

Table 28B

Market Risk Capital Charge Factors for Specific Risk
Applicable to Short-term Credit Quality Grades under STC(S) Approach
(Excluding Re-securitization Exposures)

Short-term credit quality grade	**Market risk capital charge factor**
1	1.6%
2	4.0%
3	8.0%
4	100.0%

Table 28C

Market Risk Capital Charge Factors for Specific Risk
Applicable to Long-term Credit Quality Grades under STC(S) Approach
(Re-securitization Exposures)

Long-term credit quality grade	**Market risk capital charge factor**
1	3.2%
2	8.0%
3	18.0%
4	52.0% (for investing institutions)
	100.0% (for originating institutions)
5	100.0%

Table 28D

Market Risk Capital Charge Factors for Specific Risk
Applicable to Short-term Credit Quality Grades under STC(S) Approach
(Re-securitization Exposures)

Short-term credit quality grade	**Market risk capital charge factor**
1	3.2%
2	8.0%
3	18.0%
4	100.0%

Table 28E

Market Risk Capital Charge Factors for Specific Risk
Applicable to Long-term Credit Quality Grades under Ratings-based Method in IRB(S) Approach
(Excluding Re-securitization Exposures)

Long-term credit quality grade	Market risk capital charge factor		
	A	B	C
1	0.56%	0.96%	1.60%
2	0.64%	1.20%	2.00%
3	0.80%	1.44%	2.80%
4	0.96%	1.60%	2.80%
5	1.60%	2.80%	2.80%
6	2.80%	4.00%	4.00%
7	4.80%	6.00%	6.00%
8	8.00%	8.00%	8.00%
9	20.00%	20.00%	20.00%
10	34.00%	34.00%	34.00%
11	52.00%	52.00%	52.00%
12	100.00%	100.00%	100.00%

Table 28F

Market Risk Capital Charge Factors for Specific Risk
Applicable to Short-term Credit Quality Grades under Ratings-based Method in IRB(S) Approach
(Excluding Re-securitization Exposures)

Short-term credit quality grade	**Market risk capital charge factor**		
	A	**B**	**C**
1	0.56%	0.96%	1.60%
2	0.96%	1.60%	2.80%
3	4.80%	6.00%	6.00%
4	100.00%	100.00%	100.00%

Table 28G

Market Risk Capital Charge Factors for Specific Risk
Applicable to Long-term Credit Quality Grades under Ratings-based Method in IRB(S) Approach
(Re-securitization Exposures)

Long-term credit quality grade	**Market risk capital charge factor**	
	Senior re-securitization positions A	**Non-senior re-securitization positions B**
1	1.60%	2.40%
2	2.00%	3.20%
3	2.80%	4.00%
4	3.20%	5.20%
5	4.80%	8.00%
6	8.00%	12.00%
7	12.00%	18.00%
8	16.00%	28.00%
9	24.00%	40.00%
10	40.00%	52.00%
11	60.00%	68.00%
12	100.00%	100.00%

Table 28H

Market Risk Capital Charge Factors for Specific Risk
Applicable to Short-term Credit Quality Grades under Ratings-based Method in IRB(S) Approach
(Re-securitization Exposures)

Short-term credit quality grade	**Market risk capital charge factor**	
	Senior re-securitization positions **A**	**Non-senior re-securitization positions** **B**
1	1.60%	2.40%
2	3.20%	5.20%
3	12.00%	18.00%
4	100.00%	100.00%

Part IV: **Risk-weighted Amount for Market Risk**

Division A: **STM Approach - Interest Rate Exposures (Trading Book)**

A.1 **Interest rate exposures - specific risk**

(a) **Non-securitization exposures that do not fall within a correlation trading portfolio and that are not nth-to-default credit derivative contracts**

(HK$'000)

	Item	Classes (Note (1))	Positions	Exposures by market risk capital charge factor for specific risk							Total market risk capital charge for specific risk
					Residual maturity						
					6 months or less	Over 6 months to 24 months	Over 24 months			To be specified	
				(0.00%)	(0.25%)	(1.00%)	(1.60%)	(8.00%)	(12.00%)	(%)	
		Sovereign (including sovereign foreign public sector entities)									
(1), (3)	1.1	Credit quality grade 1	Long	88,116							
			Short								
	1.2	Credit quality grade 2 or 3	Long								
			Short								
	1.3	Credit quality grade 4 or 5	Long								
			Short								
	1.4	Credit quality grade 6	Long								
			Short								
	1.5	Unrated	Long								
			Short								
		Qualifying									
	1.6	Issued by multilateral development banks	Long								
			Short								
	1.7	Issued by public sector entities (excluding sovereign foreign public sector entities)	Long								
			Short								
	1.8	Issued by banks	Long								
			Short								
	1.9	Issued by securities firms	Long								
			Short								
	1.10	Issued by corporates	Long								
			Short								
		Non-qualifying									
(12)	1.11	Credit quality grade 4	Long					10,000			
			Short								
	1.12	Credit quality grade 5	Long								
(13)			Short						1,000		
(2)	1.13	Unrated	Long					40,732			
			Short								
	1.14	**TOTAL (Items 1.1 to 1.13)**	Long	88,116	0	0	0	50,732	0	0	
			Short	0	0	0	0	0	1,000	0	
	1.15	Market risk capital charge factor		0.00%	0.25%	1.00%	1.60%	8.00%	12.00%	_____%	
	1.16	**TOTAL MARKET RISK CAPITAL CHARGE FOR SPECIFIC RISK FOR INTEREST RATE EXPOSURES (ON GROSS POSITIONS - LONG PLUS SHORT)**		**0**	**0**	**0**	**0**	**4,059**	**120**	**0**	**4,179**

Note: (1) For debt-related option contracts, the delta-weighted positions should be reported above or, if the reporting institution engages only in the purchase of option contracts as defined in the completion instructions, such option contracts can be carved out and reported in Division E.1.

A.2 **Interest rate exposures - general market risk**

Currency : HKD (separate form for each currency)

Maturity method

(HK$'000)

	Zone	Time band	Coupon		Individual positions						Risk-weight	Risk-weighted positions	
			Coupon of not less than 3% per annum	Coupon of less than 3% per annum	Debt securities & debt-related derivative contracts		Interest rate derivative contracts		Total				
					Long	Short	Long	Short	Long	Short		Long	Short
	1	1	≤1 month	≤1 month					0	0	0.00%		
(8), (11)		2	>1 to 3 months	>1 to 3 months			500	24,653	500	24,653	0.20%	1	49
(4), (5)		3	>3 to 6 months	>3 to 6 months			153,783	48,589	153,783	48,589	0.40%	615	194
(5), (6)		4	>6 to 12 months	>6 to 12 months			47,852	19,141	47,852	19,141	0.70%	335	134
(6)	2	5	>1 to 2 years	>1.0 to 1.9 years			18,531		18,531	0	1.25%	232	0
(4), (13)		6	>2 to 3 years	>1.9 to 2.8 years		1,026		159,766	0	160,792	1.75%	0	2,814
		7	>3 to 4 years	>2.8 to 3.6 years					0	0	2.25%	0	0
	3	8	>4 to 5 years	>3.6 to 4.3 years					0	0	2.75%	0	0
		9	>5 to 7 years	>4.3 to 5.7 years					0	0	3.25%	0	0
		10	>7 to 10 years	>5.7 to 7.3 years					0	0	3.75%	0	0
		11	>10 to 15 years	>7.3 to 9.3 years					0	0	4.50%	0	0
		12	>15 to 20 years	>9.3 to 10.6 years					0	0	5.25%	0	0
		13	>20 years	>10.6 to 12 years					0	0	6.00%	0	0
		14		>12 to 20 years					0	0	8.00%	0	0
		15		>20 years					0	0	12.50%	0	0
			TOTAL		0	1,026	220,666	252,149	220,666	253,175		1,183	3,191
			OVERALL NET OPEN RISK-WEIGHTED POSITION									(2,008)	

Calculation	Vertical disallowance	Horizontal disallowance in			Horizontal disallowance between			Overall net open risk-weighted position	Total market risk capital charge for general market risk
		Zone 1	Zone 2	Zone 3	Zones 1 & 2	Zones 2 & 3	Zones 1 & 3		
TOTAL MARKET RISK CAPITAL CHARGE FOR GENERAL MARKET RISK FOR INTEREST RATE EXPOSURES	**33**	**19**	**70**	**0**	**230**	**0**	**0**	**2,008**	**2,360**

Note: For debt-related option contracts, the delta-weighted positions should be reported above or, if the reporting institution engages only in the purchase of option contracts as defined in the completion instructions, such option contracts can be carved out and reported in Division E.1.

A.2 **Interest rate exposures - general market risk**

Currency : HKD (separate form for each currency)

Maturity method (Calculation of each component of total market risk capital charge for general market risk for interest rate exposures)

(HK$'000)

	Zone	Time band	Coupon		Risk-weighted positions		By band		By zone		Between zones	Calculation of total market risk capital charge for general market risk for interest rate exposures	
			Coupon of not less than 3% per annum	Coupon of less than 3% per annum	Long	Short	Matched (in absolute value)	Unmatched	Matched (in absolute value)	Unmatched	Matched (in absolute value)	For the vertical disallowance	
	1	1	≤1 month	≤1 month	0	0	0	0				329 x 10%	33
(8), (11)		2	>1 to 3 months	>1 to 3 months	1	49	1	(48)	48	574	574		
(4), (5)		3	>3 to 6 months	>3 to 6 months	615	194	194	421				For the horizontal disallowance in zone 1	
(5), (6)		4	>6 to 12 months	>6 to 12 months	335	134	134	201				48 x 40%	19
(6)	2	5	>1 to 2 years	>1.0 to 1.9 years	232	0	0	232					
(4)		6	>2 to 3 years	>1.9 to 2.8 years	0	2,814	0	(2,814)	232	(2,582)		For the horizontal disallowance in zone 2	
		7	>3 to 4 years	>2.8 to 3.6 years	0	0	0	0				232 x 30%	70
	3	8	>4 to 5 years	>3.6 to 4.3 years									
		9	>5 to 7 years	>4.3 to 5.7 years								For the horizontal disallowance between zone 1 & zone 2	
		10	>7 to 10 years	>5.7 to 7.3 years								574 x 40%	230
		11	>10 to 15 years	>7.3 to 9.3 years									
		12	>15 to 20 years	>9.3 to 10.6 years								For the overall net open position	
		13	>20 years	>10.6 to 12 years								2,008 x 100%	2,008
		14		>12 to 20 years									2,360
		15		>20 years									
			TOTAL		1,183	3,191	329						
			OVERALL NET OPEN RISK-WEIGHTED POSITION		(2,008)								

A.2 **Interest rate exposures - general market risk**

Currency : USD (separate form for each currency)

Maturity method

(HK$'000)

	Zone	Time band	Coupon		Individual positions						Risk-weight	Risk-weighted positions	
			Coupon of not less than 3% per annum	Coupon of less than 3% per annum	Debt securities & debt-related derivative contracts		Interest rate derivative contracts		Total				
					Long	Short	Long	Short	Long	Short		Long	Short
	1	1	≤1 month	≤1 month					0	0	0.00%		
(3)		2	>1 to 3 months	>1 to 3 months		8,283			0	8,283	0.20%	0	17
		3	>3 to 6 months	>3 to 6 months					0	0	0.40%	0	0
(2)		4	>6 to 12 months	>6 to 12 months	40,732				40,732	0	0.70%	285	0
	2	5	>1 to 2 years	>1.0 to 1.9 years					0	0	1.25%	0	0
		6	>2 to 3 years	>1.9 to 2.8 years					0	0	1.75%	0	0
		7	>3 to 4 years	>2.8 to 3.6 years					0	0	2.25%	0	0
	3	8	>4 to 5 years	>3.6 to 4.3 years					0	0	2.75%	0	0
(3)		9	>5 to 7 years	>4.3 to 5.7 years	8,283				8,283	0	3.25%	269	0
(1)		10	>7 to 10 years	>5.7 to 7.3 years	79,833				79,833	0	3.75%	2,994	0
		11	>10 to 15 years	>7.3 to 9.3 years					0	0	4.50%	0	0
		12	>15 to 20 years	>9.3 to 10.6 years					0	0	5.25%	0	0
		13	>20 years	>10.6 to 12 years					0	0	6.00%	0	0
		14		>12 to 20 years					0	0	8.00%	0	0
		15		>20 years					0	0	12.50%	0	0
			TOTAL		128,848	8,283	0	0	128,848	8,283		3,548	17
			OVERALL NET OPEN RISK-WEIGHTED POSITION									3,531	

Calculation	Vertical disallowance	Horizontal disallowance in			Horizontal disallowance between			Overall net open risk-weighted position	Total market risk capital charge for general market risk
		Zone 1	Zone 2	Zone 3	Zones 1 & 2	Zones 2 & 3	Zones 1 & 3		
TOTAL MARKET RISK CAPITAL CHARGE FOR GENERAL MARKET RISK FOR INTEREST RATE EXPOSURES	**0**	**7 (17X40%)**	**0**	**0**	**0**	**0**	**0**	**3,531**	**3,538**

Note: For debt-related option contracts, the delta-weighted positions should be reported above or, if the reporting institution engages only in the purchase of option contracts as defined in the completion instructions, such option contracts can be carved out and reported in Division E.1.

A.2 **Interest rate exposures - general market risk**

Currency : EUR (separate form for each currency)

Maturity method

(HK$'000)

Zone	Time band	Coupon		Individual positions						Risk-weight	Risk-weighted positions	
		Coupon of not less than 3% per annum	Coupon of less than 3% per annum	Debt securities & debt-related derivative contracts		Interest rate derivative contracts		Total				
				Long	Short	Long	Short	Long	Short		Long	Short
1	1	≤1 month	≤1 month					0	0	0.00%		
(8)	2	>1 to 3 months	>1 to 3 months			49,597		49,597	0	0.20%	99	0
	3	>3 to 6 months	>3 to 6 months					0	0	0.40%	0	0
	4	>6 to 12 months	>6 to 12 months					0	0	0.70%	0	0
2	5	>1 to 2 years	>1.0 to 1.9 years					0	0	1.25%	0	0
	6	>2 to 3 years	>1.9 to 2.8 years					0	0	1.75%	0	0
	7	>3 to 4 years	>2.8 to 3.6 years					0	0	2.25%	0	0
3	8	>4 to 5 years	>3.6 to 4.3 years					0	0	2.75%	0	0
	9	>5 to 7 years	>4.3 to 5.7 years					0	0	3.25%	0	0
	10	>7 to 10 years	>5.7 to 7.3 years					0	0	3.75%	0	0
	11	>10 to 15 years	>7.3 to 9.3 years					0	0	4.50%	0	0
	12	>15 to 20 years	>9.3 to 10.6 years					0	0	5.25%	0	0
	13	>20 years	>10.6 to 12 years					0	0	6.00%	0	0
	14		>12 to 20 years					0	0	8.00%	0	0
	15		>20 years					0	0	12.50%	0	0
		TOTAL		0	0	49,597	0	49,597	0		99	0
		OVERALL NET OPEN RISK-WEIGHTED POSITION									99	

Calculation	Vertical disallowance	Horizontal disallowance in			Horizontal disallowance between			Overall net open risk-weighted position	Total market risk capital charge for general market risk
		Zone 1	Zone 2	Zone 3	Zones 1 & 2	Zones 2 & 3	Zones 1 & 3		
TOTAL MARKET RISK CAPITAL CHARGE FOR GENERAL MARKET RISK FOR INTEREST RATE EXPOSURES	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**99**	**99**

Note: For debt-related option contracts, the delta-weighted positions should be reported above or, if the reporting institution engages only in the purchase of option contracts as defined in the completion instructions, such option contracts can be carved out and reported in Division E.1.

A.2 **Interest rate exposures - general market risk**

Currency : GBP (separate form for each currency)

Maturity method

(HK$'000)

	Zone	Time band	Coupon		Individual positions						Risk-weight	Risk-weighted positions	
			Coupon of not less than 3% per annum	Coupon of less than 3% per annum	Debt securities & debt-related derivative contracts		Interest rate derivative contracts		Total				
					Long	Short	Long	Short	Long	Short		Long	Short
	1	1	≤1 month	≤1 month					0	0	0.00%		
		2	>1 to 3 months	>1 to 3 months					0	0	0.20%	0	0
(7)		3	>3 to 6 months	>3 to 6 months				1,277	0	1,277	0.40%	0	5
(7)		4	>6 to 12 months	>6 to 12 months			1,234	3,813	1,234	3,813	0.70%	9	27
(7)	2	5	>1 to 2 years	>1.0 to 1.9 years			3,676	4,865	3,676	4,865	1.25%	46	61
(7)		6	>2 to 3 years	>1.9 to 2.8 years			4,683		4,683	0	1.75%	82	0
		7	>3 to 4 years	>2.8 to 3.6 years					0	0	2.25%	0	0
	3	8	>4 to 5 years	>3.6 to 4.3 years					0	0	2.75%	0	0
		9	>5 to 7 years	>4.3 to 5.7 years					0	0	3.25%	0	0
		10	>7 to 10 years	>5.7 to 7.3 years					0	0	3.75%	0	0
		11	>10 to 15 years	>7.3 to 9.3 years					0	0	4.50%	0	0
		12	>15 to 20 years	>9.3 to 10.6 years					0	0	5.25%	0	0
		13	>20 years	>10.6 to 12 years					0	0	6.00%	0	0
		14		>12 to 20 years					0	0	8.00%	0	0
		15		>20 years					0	0	12.50%	0	0
			TOTAL		0	0	9,593	9,955	9,593	9,955		137	93
			OVERALL NET OPEN RISK-WEIGHTED POSITION									44	

Calculation	Vertical disallowance	Horizontal disallowance in			Horizontal disallowance between			Overall net open risk-weighted position	Total market risk capital charge for general market risk
		Zone 1	Zone 2	Zone 3	Zones 1 & 2	Zones 2 & 3	Zones 1 & 3		
TOTAL MARKET RISK CAPITAL CHARGE FOR GENERAL MARKET RISK FOR INTEREST RATE EXPOSURES	**6 (55X10%)**	**0**	**5 (15X30%)**	**0**	**9 (23X40%)**	**0**	**0**	**44**	**64**

Note: For debt-related option contracts, the delta-weighted positions should be reported above or, if the reporting institution engages only in the purchase of option contracts as defined in the completion instructions, such option contracts can be carved out a

Division B: STM Approach - Equity Exposures (Trading Book)

(HK$'000)

	Item	Nature of item	Positions	Stock or futures exchanges						Total
				Hong Kong	Outside Hong Kong (Note (1))					
(9), (10)	1.	Common stocks	Long	750	11,000					11,750
			Short							0
	2.	Convertible securities	Long							0
			Short							0
	3.	Commitments to buy or sell equities and equity forward contracts	Long							0
			Short							0
	4.	Equity swap contracts (Note (2))	Long							0
			Short							0
(11)	5.	Futures contracts relating to equity indices	Long							0
			Short	500						500
	6.	Futures contracts relating to individual equities	Long							0
			Short							0
	7.	Option contracts relating to equity indices (Note (3))	Long							0
			Short							0
	8.	Option contracts relating to individual equities (Note (3))	Long							0
			Short							0
	9.	Others	Long							0
			Short							0
		TOTAL	**Long**	**750**	**11,000**	**0**	**0**	**0**	**0**	**11,750**
			Short	**500**	**0**	**0**	**0**	**0**	**0**	**500**

Calculation

(A)	Gross (long plus short) positions	1,250	11,000	0	0	0	0	12,250
	Market risk capital charge factor	8%	8%	8%	8%	8%	8%	
	Market risk capital charge for specific risk	**100**	**880**	**0**	**0**	**0**	**0**	**980**
(B)	Net long or short positions (in absolute value)	250	11,000	0	0	0	0	11,250
	Market risk capital charge factor	8%	8%	8%	8%	8%	8%	
	Market risk capital charge for general market risk	**20**	**880**	**0**	**0**	**0**	**0**	**900**
	TOTAL MARKET RISK CAPITAL CHARGE FOR EQUITY EXPOSURES	**120**	**1,760**	**0**	**0**	**0**	**0**	**1,880**

Note:

(1) The reporting institution should report its equity exposures on an exchange-by-exchange basis (i.e. separate column for each stock or futures exchange) and use separate reporting form(s) if the columns of this form are not enough.

(2) Where an equity swap contract involves a leg requiring the receipt or payment of fixed or floating rate interest, that leg should be regarded as an interest rate exposure and reported in Division A.2.

(3) For equity-related option contracts, the delta-weighted positions should be reported above or, if the reporting institution engages only in the purchase of option contracts as defined in the completion instructions, such option contracts can be carved out and reported in Division E.1.

Division E: **STM Approach - Option Exposures**

E.1 **Simplified approach** *(For reporting institutions which purchase only option contracts as defined in the completion instructions.)*

1(a) **Long option contract with a related position in the underlying exposure of the option contract**

Report the market risk capital charge for each option contract as well as the related position in the underlying exposure below.

Market risk capital charge = (Fair value of the underlying exposure of the option contract) x (Sum of the market risk capital charge factors for general market risk and specific risk for the underlying exposure) – (The amount by which the option contract is in-the-money)

(HK$'000)

	Item	Nature of the underlying exposure	Market risk capital charge factor		Long underlying exposure & long put option contract	Short underlying exposure & long call option contract	Total market risk capital charge
			Specific risk	General market risk			
	1.1	Debt instruments (Note (1))	0.00% (Note(2))	Note (3)			0
			0.25% (Note(2))	Note (3)			0
			1.00% (Note(2))	Note (3)			0
			1.60% (Note(2))	Note (3)			0
			8.00% (Note(2))	Note (3)			0
			12.00% (Note(2))	Note (3)			0
			To be specified (Note(2))	Note (3)			0
	1.2	Interest rate, i.e. non-debt related (Note (1))	0.00%	Note (3)			0
(10)	1.3	Equity (Note(1))	8.00%	8.00%	45		45
	1.4	Foreign exchange	0.00%	8.00%			0
	1.5	Commodity	0.00%	15.00%			0
		TOTAL MARKET RISK CAPITAL CHARGE FOR OPTION EXPOSURES					**45**

Note:
(1) Only trading book positions should be reported.
(2) The classes are same as those in Division A.1(a).
(3) The general market risk capital charge should be calculated as per the risk-weights according to the time bands set out in Division A.2.

Completion Instructions

Return of Capital Adequacy Ratio
Part V - Risk-weighted Amount for Operational Risk
Form MA(BS)3(V)

Introduction

1. Form MA(BS)3(V) should be completed by each authorized institution incorporated in Hong Kong to calculate ***operational risk***, based on the approach to calculation as specified by or agreed with the Monetary Authority (MA) under Part 9 of the Banking (Capital) Rules. Reporting institutions should use the ***basic indicator approach (BIA approach)*** to calculate their ***risk-weighted amount for operational risk***, unless they have the prior approval of the MA to use the ***standardized (operational risk) approach (STO approach)***, ***alternative standardized approach (ASA approach)*** or other methods. Where an institution has been approved to use a calculation method other than the BIA approach, STO approach or ASA approach, it should report its risk-weighted amount for operational risk in a manner as agreed with the MA.

2. This Form and its completion instructions should be read in conjunction with the Rules and relevant supervisory policy/guidance on the revised capital adequacy framework.

Section A: Definitions and Clarification

3. Under the BIA approach, STO approach or ASA approach, the reporting institution's risk-weighted amount for operational risk is calculated based on its average ***gross income*** or loans and advances of the ***last 3 years***. If an institution has been in operation for 18 months or more but less than 3 ***years***, it should treat any partial year of operation of 6 months or more as a full year, and any partial year of operation of less than 6 months as zero for the purposes of calculating the last 3 years arithmetic mean of its gross income and/or loans and advances in the ***standardized business lines*** of retail banking and commercial banking[1].

4. If any partial year is counted as a full year, the gross income of that partial year should be annualized and taken as the gross income of that year. As for the applicable loans and advances under the ASA approach, the arithmetic mean of the amount of loans and advances outstanding at the end of each full ***calendar quarter*** within that partial year should be taken as the loans and advances for that year. If any partial year is treated as zero, the gross income and loans advances in the standardized business lines of retail banking and commercial banking for that partial year should be taken as zero.

[1] Please refer to sections 324 and 325 of the Rules for the meaning of "loans and advances in the standardized business line of commercial banking" and "loans and advances in the standardized business line of retail banking".

5. An illustration of calculating the gross income and loans and advances in the standardized business lines of retail banking and commercial banking for partial and full year of operation is shown at **Annex V-A**.

6. Examples on reporting of operational risk under different approaches are shown at **Annex V-B**.

Section B: Calculation and Reporting of Risk-weighted Amount

7. The following paragraphs explain how to report the gross income/loans and advances, ***capital charges*** and risk-weighted amount under the BIA approach, STO approach or ASA approach.

B.1 BIA Approach

8. The capital charge for operational risk under the BIA approach should be calculated using the following formula:

$$K_{BIA} = [\Sigma(GI_{1\ldots n} \times \alpha)] / n$$

Where:
K_{BIA} = capital charge for operational risk calculated under the BIA approach;
GI = gross income, where positive, of the last 3 years;
α = 15%; and
n = number of the last 3 years for which gross income is positive.

Any gross income for a year that is negative or zero should be excluded from both the numerator (GI) and the denominator (n) of the above formula.

9. Reporting institutions using the BIA approach should report items *1*, *4* and *5* of this Form.

Item	Nature of item
1.	Report the gross income and capital charges for each of the last 3 years ending on the reporting ***calendar quarter end date***.

(a) Gross income for the last 3 years is calculated by:

- ***First year***: aggregating the gross income recognized by the institution in the calendar quarter ending on the reporting calendar quarter end date and in each of the 3 immediately preceding calendar quarters;

- ***Second year***: aggregating the gross income recognized by the institution in the year immediately preceding the first year; and

- ***Third year***: aggregating the gross income recognized by the institution in the year immediately preceding the second year.

(b) Capital charge is calculated by multiplying the gross income in each of the first year, second year and third year, where positive, (as calculated under (a) above) by a capital charge factor of 15%.

4. **Capital charge for operational risk**

This is calculated by aggregating the capital charges for the last 3 years (as reported under item *1*) and obtaining the arithmetic mean of the aggregate capital charge by dividing that aggregate figure by the number of the last 3 years in which the gross income is positive.

5. **Risk-weighted amount for operational risk**

This is calculated by multiplying the capital charge for operational risk under the BIA approach (as reported under item 4) by 12.5.

B.2 STO Approach

10. The capital charge for operational risk under the STO approach should be calculated using the following formula[2]:

$$K_{STO} = \{\textstyle\sum_{years 1\text{-}3} \max [\sum(GI_{1\text{-}8} \times \beta_{1\text{-}8}), 0]\} / 3$$

Where:
K_{STO} = capital charge for operational risk calculated under the STO approach;
$GI_{1\text{-}8}$ = gross income for each of the standardized business lines for each of the last 3 years; and
$\beta_{1\text{-}8}$ = capital charge factor applicable to each of the standardized business lines (as set out in the instructions for items *2.1a* to *2.1h* under paragraph 11).

11. Reporting institutions using the STO approach should report items *2, 4* and *5* of this Form.

Item	Nature of item
2.1a to 2.1h	Report the gross income and capital charges for each of the 8 standardized business lines (under items *a* to *h*) for each of the last 3 years ending on the reporting calendar quarter end date.

---

[2] If the reporting institution has business activities that could not be mapped into any of the 8 standardized business lines and are reported under the unclassified business line, the gross income of these activities should also be included in the above formula in calculating the capital charge for operational risk. See instructions under item *2.1i* for details.

(a) Gross income for each of the 8 standardized business lines for the last 3 years is calculated by:

- First year: aggregating the gross income recognized by the institution in respect of each of the 8 standardized business lines in the calendar quarter ending on the reporting calendar quarter end date and the gross income recognized by the institution in respect of each of the 8 standardized business lines in each of the 3 immediately preceding calendar quarters;

- Second year: aggregating the gross income recognized by the institution in respect of each of the 8 standardized business lines in the year immediately preceding the first year; and

- Third year: aggregating the gross income recognized by the institution in respect of each of the 8 standardized business lines in the year immediately preceding the second year.

(b) The capital charge for each of the 8 standardized business lines is calculated by multiplying the gross income of each standardized business line in each of the first year, second year and third year (as calculated under (a) above) by the capital charge factor applicable to that standardized business line set out below:

Standardized business line	**Capital charge factor**
Corporate finance	18%
Trading and sales	18%
Retail banking	12%
Commercial banking	15%
Payment and settlement	18%
Agency services	15%
Asset management	12%
Retail brokerage	12%

2.1i If none of the mapping principles set out in sections 2(c)(i), (ii) and (iii) of Schedule 4 of the Rules enables the reporting institution to map gross income in respect of a particular business activity into a particular standardized business line, the institution can map it under the unclassified business line.

Report the gross income of the unclassified business line for the last 3 years using the same method as set out in (a) above. The capital charge is calculated by multiplying the gross income of this business line in each of the first year, second year and third year by a capital charge factor of 18%.

2.2 Report the total capital charges for each of the last 3 years by adding together the capital charges calculated under items *2.1a* to *2.1h* and *2.1i* above for each of the last 3 years. In any given year of the last 3 years, the reporting institution may offset a positive capital charge for any standardized or the unclassified business line in the given year with a negative capital charge for any other standardized or the unclassified business line in that given year. However, it shall not offset positive or negative capital charges for the standardized or the unclassified business line between any of the last 3 years.

4. **Capital charge for operational risk**

This is calculated by aggregating the capital charges for the last 3 years (as reported under item *2.2*) and obtaining the arithmetic mean of the aggregate capital charge by dividing that aggregate figure by 3. If the aggregate capital charge for all the standardized and the unclassified business lines in any given year is negative, it should be assigned a zero value and that given year should still be counted in the denominator when calculating the last 3 years arithmetic mean.

5. **Risk-weighted amount for operational risk**

This is calculated by multiplying the capital charge for operational risk under the STO approach (as reported under item *4*) by 12.5.

B.3 <u>ASA Approach</u>

12. The methodology to calculate the capital charge under the ASA approach is the same as the STO approach except for 2 standardized business lines – retail banking and commercial banking. For these 2 standardized business lines, loans and advances, when multiplied by a fixed factor of 0.035, replace gross income in calculating the capital charge for operational risk.

13. The capital charge for operational risk in the standardized business line of retail (or commercial) banking for each year should be calculated using the following formula:

$K_{RB} = LA_{RB} \times 0.035 \times \beta_{RB}$

Where:

K_{RB} = capital charge for the standardized business line of retail (or commercial) banking;

LA_{RB} = loans and advances in the standardized business line of retail (or commercial) banking for each year; and

β_{RB} = capital charge factor for the standardized business line of retail (or commercial) banking.

14. Reporting institutions using the ASA approach should report items *3, 4* and *5* of this Form. In reporting item *3*, the reporting institution can report either item *3.1* <u>or</u> *3.3* <u>and</u> item *3.2* <u>or</u> *3.4*, depending on whether the institution wishes to treat its

standardized business lines of retail banking and commercial banking as 2 separate business lines or one business line and the remaining 6 standardized and the unclassified business lines as separate business lines or one business line. Once the reporting institution has chosen the reporting methodology it should not change that reporting methodology unless it has the prior approval of the MA.

Item	Nature of item
3.1a and 3.1b	Report the loans and advances and capital charges for the standardized business lines of retail banking and commercial banking for each of the last 3 years ending on the reporting calendar quarter end date. (a) The loans and advances in the standardized business lines of retail (or commercial) banking for the last 3 years is calculated by: • First year: taking the arithmetic mean of the amount of loans and advances as at the reporting calendar quarter end date and as at each of the 3 immediately preceding calendar quarter end dates; • Second year: taking the arithmetic mean of the amount of loans and advances as at each of the 4 calendar quarter end dates immediately preceding the first year; and • Third year: taking the arithmetic mean of the amount of loans and advances as at each of the 4 calendar quarter end dates immediately preceding the second year. (b) The capital charge for the standardized business line of retail (or commercial) banking is calculated by multiplying the loans and advances of the business line in each of the first year, second year and third year (as calculated under (a) above) by 0.035 and then by a capital charge factor of 12% (or 15%).
3.1c	Report the subtotal of capital charges for the standardized business lines of retail banking and commercial banking for each of the last 3 years by adding together the capital charges reported under items *3.1a* and *3.1b* for each of the last 3 years.
3.2a to 3.2f	Report the gross income and capital charge for each of the 6 standardized business lines (under items *a* to *f*) for each of the last 3 years ending on the reporting calendar quarter end date, using the same method as that for the STO approach (as set out in the instructions for items *2.1a* to *2.1h* under paragraph 11).
3.2g	Report the gross income and capital charge for the unclassified business line using the same method as that for the STO approach (as set out in the instructions for item *2.1i* under paragraph 11).

3.2h Report the subtotal of the capital charges for the 6 standardized and the unclassified business lines under items *3.2a* to *3.2g* for each of the last 3 years. The reporting institution may, in any given year of the last 3 years, offset a positive capital charge for any of these standardized or the unclassified business line in the given year with a negative capital charge for any other standardized or the unclassified business line in the given year. However, it shall not offset positive or negative capital charges for the standardized or the unclassified business line between any of the last 3 years.

3.3 Treat the standardized business lines of retail banking and commercial banking as one business line and report the loans and advances and capital charges for these business lines in one lump sum for each of the last 3 years ending on the reporting calendar quarter end date.

(a) The aggregate loans and advances in the standardized business lines of retail banking and commercial banking for the last 3 years are calculated using the same method as set out for items *3.1a* and *3.1b* above.

(b) The aggregate capital charge for the standardized business lines of retail banking and commercial banking is calculated by multiplying the loans and advances of these 2 business lines in each year (as calculated under (a) above) by 0.035 and then by a capital charge factor of 15%.

3.4 Treat the 6 standardized and the unclassified business lines (as referred to under items *3.2a* to *3.2g*) as one business line and report the gross income and capital charge for these business lines in one lump sum for each of the last 3 years ending on the reporting calendar quarter end date.

(a) The aggregate gross income for the 6 standardized and the unclassified business lines is calculated by using the same method as set out for items *3.2a* to *3.2f* and *3.2g* above.

(b) The aggregate capital charge for the 6 standardized and the unclassified business lines is calculated by multiplying the aggregate gross income of these business lines in each year (as calculated under (a) above) by a capital charge factor of 18%.

3.5 Report the total capital charges for each of the last 3 years by adding together the capital charges for the standardized business lines of retail banking and commercial banking (item *3.1c* or *3.3*) and the capital charges for the remaining 6 standardized and the unclassified business lines (item *3.2h* or *3.4*) for each of the last 3 years. If the aggregate capital charge for the remaining 6 standardized and the unclassified business lines in a given year of the last 3 years is

negative, it should be assigned a zero value and should not be used to offset the capital charges for the standardized business lines of retail banking and/or commercial banking.

4. **Capital charge for operational risk**

This is calculated by aggregating the capital charges for the last 3 years (as reported under item *3.5*) and obtaining the arithmetic mean of the aggregate capital charge by dividing that aggregate figure by 3.

5. **Risk-weighted amount for operational risk**

This is calculated by multiplying the capital charge for operational risk under the ASA approach (as reported under item *4*) by 12.5.

Hong Kong Monetary Authority
March 2007

<u>Annex V-A</u>

An illustration of calculating the gross income and loans and advances in the standardized business lines of retail banking and commercial banking for partial and full year of operation

REPORTING POSITION: 31 MARCH 2007

Proxy for operational risk exposures	First Year	Second Year	Third Year	Number of years in operation
Reporting institution in operation for 3 years or more				
Gross income	sum of gross income for the quarters ended on 31.03.07, 31.12.06, 30.09.06 and 30.06.06	sum of gross income for the quarters ended on 31.03.06, 31.12.05, 30.09.05 and 30.06.05	sum of gross income for the quarters ended on 31.03.05, 31.12.04, 30.09.04 and 30.06.04	3
Loans and advances in the standardized business line of retail/commercial banking	arithmetic mean of the amount outstanding as at 31.03.07, 31.12.06, 30.09.06 and 30.06.06	arithmetic mean of the amount outstanding as at 31.03.06, 31.12.05, 30.09.05 and 30.06.05	arithmetic mean of the amount outstanding as at 31.03.05, 31.12.04, 30.09.04 and 30.06.04	3
Reporting institution in operation for 2½ years or more but less than 3 years				
Gross income	same as above	same as above	annualize the gross income of the partial year	3
Loans and advances in the standardized business line of retail/commercial banking	same as above	same as above	<u>≥ 6 months but < 9 months</u> arithmetic mean of the amount outstanding as at 31.03.05 and 31.12.04 <u>≥ 9 months but < 12 months</u> arithmetic mean of the amount outstanding as at 31.03.05, 31.12.04 and 30.09.04	3
Reporting institution in operation for 2 years or more but less than 2½ years				
Gross income	same as above	same as above	zero	2
Loans and advances in the standardized business line of retail/commercial banking	same as above	same as above	zero	2
Reporting institution in operation for 1½ years or more but less than 2 years				
Gross income	same as above	annualize the gross income of the partial year	N.A. (Reporting institution not yet in operation)	2
Loans and advances in the standardized business line of retail/commercial banking	same as above	<u>≥ 6 months but < 9 months</u> arithmetic mean of the amount outstanding as at 31.03.06 and 31.12.05 <u>≥ 9 months but < 12 months</u> arithmetic mean of the amount outstanding as at 31.03.06, 31.12.05 and 30.09.05	N.A. (Reporting institution not yet in operation)	2

Annex V-B

Examples on reporting of operational risk under different approaches

Reporting institution's gross income and loans and advances for the last 3 years as at 31 March 2007

	Business lines	First Year	Second Year	Third Year
		HK$'000	HK$'000	HK$'000
	Gross income (Note 1)			
1.	Corporate finance	1,500	1,200	-500
2.	Trading and sales	1,000	900	300
3.	Retail banking	1,200	1,000	-1,000
4.	Commercial banking	2,000	1,300	700
5.	Payment and settlement	900	-500	-1,300
6.	Agency services	1,100	-200	500
7.	Asset management	700	500	100
8.	Retail brokerage	300	600	200
	Total	**8,700**	**4,800**	**-1,000**
	Loans and advances (Note 2)			
1.	Retail banking	25,000	15,000	10,000
2.	Commercial banking	14,000	18,000	20,000
	Total	**39,000**	**33,000**	**30,000**

Note 1 - Gross income of the first year = sum of gross income for Q1/07, Q4/06, Q3/06 & Q2/06
Gross income of the second year = sum of gross income for Q1/06, Q4/05, Q3/05 & Q2/05
Gross income of the third year = sum of gross income for Q1/05, Q4/04, Q3/04 & Q2/04
Note 2 - Loans and advances of the first year = arithmetic mean of the amount outstanding as at Q1/07, Q4/06, Q3/06 & Q2/06
Loans and advances of the second year = arithmetic mean of the amount outstanding as at Q1/06, Q4/05, Q3/05 & Q2/05
Loans and advances of the third year = arithmetic mean of the amount outstanding as at Q1/05, Q4/04, Q3/04 & Q2/04

RETURN REPORTING

BIA APPROACH

			Gross Income/Loans & Advances HK$'000			Capital Charges HK$'000		
Item	Nature of item	Capital Charge Factor %	First year	Second Year	Third Year	First year	Second Year	Third Year
1.	**BIA Approach**	15	8,700	4,800	-1,000	1,305	720	0
4.	**Capital charge for operational risk**					(1,305 + 720)/2		**1,013**
5.	**RISK-WEIGHTED AMOUNT FOR OPERATIONAL RISK**					1,013 x 12.5		**12,663**

STO APPROACH

				Gross Income/Loans & Advances HK$'000			Capital Charges HK$'000		
Item	Nature of item		Capital Charge Factor %	First year	Second Year	Third Year	First year	Second Year	Third Year
2.	**STO Approach**								
	2.1	a. Corporate finance	18	1,500	1,200	-500	270	216	-90
		b. Trading and sales	18	1,000	900	300	180	162	54
		c. Retail banking	12	1,200	1,000	-1,000	144	120	-120
		d. Commercial banking	15	2,000	1,300	700	300	195	105
		e. Payment and settlement	18	900	-500	-1,300	162	-90	-234
		f. Agency services	15	1,100	-200	500	165	-30	75
		g. Asset management	12	700	500	100	84	60	12
		h. Retail brokerage	12	300	600	200	36	72	24
		i. Unclassified	18	0	0	0	0	0	0
	2.2	TOTAL					**1,341**	**705**	**-174**
4.	**Capital charge for operational risk**						(1,341+705+0)/3		**682**
5.	**RISK-WEIGHTED AMOUNT FOR OPERATIONAL RISK**						682 x 12.5		**8,525**

ASA APPROACH

Method (i)

Item	Nature of item		Capital Charge Factor %	Gross Income/Loans & Advances HK$'000 First year	Second Year	Third Year	Capital Charges HK$'000 First year	Second Year	Third Year
	3.1	a. Retail banking	12	25,000	15,000	10,000	105	63	42
		b. Commercial banking	15	14,000	18,000	20,000	74	95	105
		c. SUBTOTAL					179	158	147
	3.2	a. Corporate finance	18	1,500	1,200	-500	270	216	-90
		b. Trading and sales	18	1,000	900	300	180	162	54
		c. Payment and settlement	18	900	-500	-1,300	162	-90	-234
		d. Agency services	15	1,100	-200	500	165	-30	75
		e. Asset management	12	700	500	100	84	60	12
		f. Retail brokerage	12	300	600	200	36	72	24
		g. Unclassified	18	0	0	0	0	0	0
		h. SUBTOTAL					897	390	-159
	3.5	TOTAL					**1,076**	**548**	**147**
4.	**Capital charge for operational risk**						(1,076+548+147)/3		**590**
5.	**RISK-WEIGHTED AMOUNT FOR OPERATIONAL RISK**						590 x 12.5		**7,375**

Method (ii)

Item	Nature of item		Capital Charge Factor %	Gross Income/Loans & Advances HK$'000 First year	Second Year	Third Year	Capital Charges HK$'000 First year	Second Year	Third Year
	3.1	a. Retail banking	12	25,000	15,000	10,000	105	63	42
		b. Commercial banking	15	14,000	18,000	20,000	74	95	105
		c. SUBTOTAL					179	158	147
	3.4	3.2a to 3.2g as one business line	18	5,500	2,500	-700	990	450	-126
	3.5	TOTAL					**1,169**	**608**	**147**
4.	**Capital charge for operational risk**						(1,169+608+147)/3		**641**
5.	**RISK-WEIGHTED AMOUNT FOR OPERATIONAL RISK**						641 x 12.5		**8,013**

Method (iii)

Item	Nature of item		Capital Charge Factor %	Gross Income/Loans & Advances HK$'000 First year	Second Year	Third Year	Capital Charges HK$'000 First year	Second Year	Third Year
	3.2	a. Corporate finance	18	1,500	1,200	-500	270	216	-90
		b. Trading and sales	18	1,000	900	300	180	162	54
		c. Payment and settlement	18	900	-500	-1,300	162	-90	-234
		d. Agency services	15	1,100	-200	500	165	-30	75
		e. Asset management	12	700	500	100	84	60	12
		f. Retail brokerage	12	300	600	200	36	72	24
		g. Unclassified	18	0	0	0	0	0	0
		h. SUBTOTAL					897	390	-159
	3.3	3.1a & 3.1b as one business line	15	39,000	33,000	30,000	205	173	158
	3.5	TOTAL					**1,102**	**563**	**158**
4.	**Capital charge for operational risk**						(1,102+563+158)/3		**608**
5.	**RISK-WEIGHTED AMOUNT FOR OPERATIONAL RISK**						608 x 12.5		**7,600**

Method (iv)

Item	Nature of item	Capital Charge Factor %	Gross Income/Loans & Advances HK$'000 First year	Second Year	Third Year	Capital Charges HK$'000 First year	Second Year	Third Year
	3.3 3.1a & 3.1b as one business line	15	39,000	33,000	30,000	205	173	158
	3.4 3.2a to 3.2g as one business line	18	5,500	2,500	-700	990	450	-126
	3.5 TOTAL					**1,195**	**623**	**158**
4.	**Capital charge for operational risk**					(1,195+623+158)/3		**659**
5.	**RISK-WEIGHTED AMOUNT FOR OPERATIONAL RISK**					659 x 12.5		**8,238**

Completion Instructions

Return of Capital Adequacy Ratio
Part VI – Risk-weighted amount for Sovereign Concentration Risk
Form MA(BS)3(VI)

Introduction

1. Form MA(BS)3(VI) should be completed by an authorized institution incorporated in Hong Kong to determine its risk-weighted amount for sovereign concentration risk for the calculation of capital adequacy ratios.

2. This Form and its completion instructions should be read in conjunction with the Banking (Capital) Rules (BCR) and the relevant supervisory policy/guidance as applicable.

Section A: Definitions and General Instructions

3. Unless otherwise stated, the institution shall refer to sections 2(1), 3 and 342 of the BCR for the interpretation of the terms used in this form and its completion instructions.

4. In this return, "Credit protection provider" –
   (a) in relation to a collateral – means the issuer of the collateral;
   (b) in relation to a guarantee – means the guarantor under the guarantee; or
   (c) in relation to a credit derivative contract – means the protection seller under the contract.

5. This part collects data on an institution's "concentrated sovereign exposure" to a country. An AI has concentrated sovereign exposure to a country if the aggregate amount of its specified sovereign exposure to all specified sovereign entities in that country exceeds 100% of its Tier 1 capital. When determining whether this threshold is exceeded for a country, an AI should use the amount of its Tier 1 capital as reported in Part I, Division A, item 1.1 of the Return of Capital Adequacy Ratio (i.e. Form MA(BS)(3)(I)) of the previous quarter if there has been no significant reduction in its Tier 1 capital during the reporting period. If there has been a reduction of 10% or more in its Tier 1 capital, the AI should use its most recent Tier 1 capital figure instead and inform its usual contact at the HKMA.

6. "Specified sovereign exposure" is defined in section 342(1) of the BCR. In general, it covers direct exposure[1] to a specified sovereign entity and certain indirect exposure that arises from the specified sovereign entity acting as a credit protection provider for another exposure of the institution where the credit protection is in the form of collateral or guarantee and the specified sovereign entity is the collateral issuer or

[1] Direct exposure refers to an exposure to a counterparty that is a direct obligator to an AI under a transaction or contract of the AI.

guarantor under section 350(1) and (3)[2]. A specified sovereign exposure should be valued in accordance with Division 3, Part 10 of the BCR.

7. “Specified sovereign entity” is defined under section 342(1), which does not include the following:
   (a) the Government;
   (b) the Central People’s Government of the People’s Republic of China;
   (c) the People’s Bank of China;
   (d) a sovereign foreign public sector entity of the Mainland of China;
   (e) the Government of the United States of America.

8. The amount of concentrated sovereign exposure to a country should be apportioned into amounts described in column 2 of Table 34 under section 344, to be multiplied by the corresponding risk-weights stated in column 3 of the same table for calculating the relevant risk-weighted amounts. The sum of these risk-weighted amounts is the risk-weighted amount of concentrated sovereign exposure to the country.

Section B: Specific Instructions

9. Report in Column (2) of Item 1 under Part VI the two-letter ISO 3166-1 alpha-2 country code for any country to which the institution has a concentrated sovereign exposure. These codes are available on the online browsing platform[3] maintained by the International Organization for Standardization.

10. Report in Column (3) of Item 1 under Part VI the risk-weighted amount of the institution’s concentrated sovereign exposure to the country reported in Column (2) as calculated in accordance with section 344 of the BCR. See also para. 6 and Section C for an illustrative example of the calculation of risk-weighted amount for sovereign concentration risk.

Section C: Illustrative example of the calculation of risk-weighted amount for sovereign concentration risk

Suppose an authorized institution has the following exposures to countries A, B and C:
(i) Country A: HK$2m sovereign bond and HK$1m placement to central bank;
(ii) Country B: HK$0.5m sovereign bond and HK$1m indirect exposure arising from a guarantee provided by the central government of country B which is not a recognized guarantee[4];
(iii) Country C: HK$1.5m sovereign bond and HK$0.5m indirect exposure arising from the holding of a recognized collateral[5] issued by the central government of country C (as a result of the latter the AI has reduced the value of the exposure covered by this collateral

[2] This should include any indirect exposure to a specified sovereign entity arising from a recognized collateral or recognized guarantee issued by the specified sovereign entity, which has been used to reduce a CRM covered exposure to a CRM uncovered portion of the exposure under rule 57(1) of the Banking (Exposure Limits) Rules (Cap. 155S), and valued at the amount so reduced.
[3] https://www.iso.org/obp/ui/#search
[4] See rule 39(1) of the Banking (Exposure Limits) Rules for the definition of “recognized guarantee”.
[5] See rule 39(1) of the Banking (Exposure Limits) Rules for the definition of “recognized collateral”.

by HK$0.5m in accordance with Division 6 of Part 7 of the Banking (Exposure Limits) Rules) ("BELR").

In addition, assume the institution had the following repo-style transactions with a counterparty (Counterparty X):

	AI delivered	AI received
(iv) Reverse repo transaction	HK$1m cash	HK$1.2m Country A sovereign bond (assume HK$1.14m after haircut)
(v) Repo transaction	HK$0.5m Country B sovereign bond in (ii) above* (assume HK$0.525m after haircut)	HK$0.5m cash
Total (after haircut)	HK$1.525m	HK$1.64m

*It should be noted that the securities sold in a repo transaction (i.e. the Country B sovereign bond in this case) is treated as an on balance sheet exposure of the institution as if the institution had never entered into the transaction and valued in accordance with section 349 of the BCR.

Through these repo-style transactions, the institution had gross default risk exposure of HK$1.525m (i.e. aggregate value of cash and securities delivered) to Counterparty X.

Case 1: No netting agreement with Counterparty X – Transactions (iv) and (v) have to be considered separately. Only transaction (iv) involves a collateral issued by a sovereign. Since the default risk exposure of HK$1m under transaction (iv) was fully offset by the Country A sovereign bond, the institution should recognise a specified sovereign exposure of HK$1m to Country A in the calculation of risk weighted amount of sovereign concentration risk to Country A.

Case 2: Netting agreement applies to the transactions with Counterparty X – The aggregate gross default risk exposure amount of HK$1.525m in the netting set can be offset by the aggregate collateral received of HK$1.64m in the netting set. Again the full amount of exposure of HK$1.525m was offset by value of collateral available. For determining the amount of reduction attributable to individual collaterals in a basket of collateral, an AI should refer to rule 83 of the BELR. If, for example, an exposure is covered by a basket of collaterals and all the collaterals within the basket would result in the same risk-weighted amount of that exposure, the AI may pro-rata the amount of reduction by the value of individual collaterals. For example in this case:

- Amount of reduction attributable to Country A sovereign bond = HK$1.525 x (1.14/1.64) = HK$1.06m;
- Amount of reduction attributable to cash collateral = HK$1.525 x (0.5/1.64) = HK$0.465m.
- In this case, the institution should recognize a specified sovereign exposure of HK$1.06m to Country A in the calculation of risk weighted amount of sovereign concentration risk to Country A.

For the sake of convenience for illustration purpose, the AI's indirect exposure to Country A arising from the repo-style transactions is assumed to be HK$1m. Taking this into account,

the institution's exposure to Country A becomes HK$4m.

The institution's Tier 1 capital reported in the last quarter was HK$0.6m.

The institution has concentrated sovereign exposure to countries A and C because the amount of specified sovereign exposure to each of them exceeds the amount of the institution's Tier 1 capital. In relation to the institution's exposure to country B, specified sovereign exposure does not include the exposure arising from the guarantee provided by the central government of country B that is not a recognized guarantee. Accordingly the institution's amount of specified sovereign exposure to country B (i.e. HK$0.5m) does not exceed its Tier 1 capital and therefore is not a concentrated sovereign exposure.

The risk-weighted amount for sovereign concentration risk of the institution would be calculated as follows:

Portion of concentrated sovereign exposure (% refers to % of the institution's Tier 1 capital)	Country A		Country C	
	Exposure amount (HK$'000)	Risk-weighted amount (HK$'000)	Exposure amount (HK$'000)	Risk-weighted amount (HK$'000)
Portion > 0% but ≤100% (Not applicable)	600	-	600	-
Portion > 100% but ≤150% (Risk-weight 5%)	300	15	300	15
Portion > 150% but ≤ 200% (Risk-weight 6%)	300	18	300	18
Portion > 200% but ≤ 250% (Risk-weight 9%)	300	27	300	27
Portion > 250% but ≤ 300% (Risk-weight 15%)	300	45	300	45
Portion > 300% (Risk-weight 30%)	2,200	660	200	60
Total risk-weighted amount for sovereign concentration risk*	**4,000**	**765 (Report under column 3, item 1)**	**2,000**	**165 (Report under column 3, item 1)**

* The total risk-weighted amount for sovereign concentration risk to all countries of 930 (i.e. 765 + 165) in this example will be system-generated in item 2 of Part VI.

Hong Kong Monetary Authority
September 2019